---== ST REPORT INTERNATIONAL ONLINE MAGAZINE ==---

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> The Editor’s Podium

Due to the size of this week’s issue, the editorial will be kept to a bare minimum. This issue concentrates on the accurate, up to date information pertaining to the FCC. The commissions’s Bureau Chief Fed-Exed the Rules and Regs to STReport and arranged a series of interviews. STReport felt it was necessary to dispel much of the "not so accurate" info that was circulating.

On another note, many of you have asked about Avant Vektor, well within the next two weeks, STReport will be announcing the US representative. Fantastic programs. Yes, they will be more than adequately represented in the USA.

Thank you for your continued support!

Ralph.....

TODAY’S NEWS ..TODAY!

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> STReport’s Staff The regulars and this week’s contributors!
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Ralph F. Mariano

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IMPORTANT NOTICE
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Compuserve..... 70007,4454
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WHAT'S NEW IN THE ATARI FORUMS (April 26)

WELCOME, GOLDLEAF!

Goldleaf Software, makers of Wordflair, have joined us online to support their customers and answer your questions about their products. Drop them a message in any of the Atari ST Forums at User ID number 70007,4271.

NEW VERSION OF ARC SHELL

Charles F. Johnson and Little Green Footballs Software bring you version 2.5 of ARC Shell, the program that adds a friendly and powerful GEM interface to ARC.TTP and LHARC. NOW FEATURING: an expanded interface with CodeHead Software's new MaxiFile III! ARC Shell 2.5 takes advantage of a "back door" built into MaxiFile III, letting you select multiple files for archiving (even files from different directories) all in ONE move! See ARCS25.ARC in Library 1 of the Atari Productivity Forum (GO ATARIPRO)

QUICKCIS UPDATE

QuickCIS users--see QCNEW.LZH in Library 1 of the Atari Productivity Forum (GO ATARIPRO) for the latest version that allows you to use Ymodem-G with an error correcting modem for faster file transfers.

NEW FROM GRIBNIF

Gribnif Software is now officially on line to answer your questions about their product line and have uploaded the following new files to their library (library 8) of the Atari Vendors Forum (GO ATARIVEN):

FMDOIT.ARC - FormDoIt! 1.2 - Alert & dialog box enhancements
INFO1.TXT - Information about CardFile 3 from Gribnif Software

PCH302.ARC - NeoDesk 3.01 to 3.02 Upgrade Patch Program
PRESS1.TXT - Release that Gribnif now markets CardFile
PRESS2.TXT - Release announcing new "CardFile 3" from Gribnif

PROGRAM OF THE WEEK FROM DOUBLECLICK

Don’t miss this weeks "Program of the Week" from the great folks at Double Click Software! This weeks program, DC BIT SET, sets the ARCHIVE bit on files -- both new and modified. Now you can fully utilize all those great backup programs that rely on the ARCHIVE bit being set. Download DCBSET.ARC from LIBRARY 13 of the Atari Vendors Forum (GO ATARIVEN).

PORTFOLIO LIBRARY CATALOGS

New catalog files for all public libraries of the Atari Portfolio (GO APORTFOLIO) are now available in Library 1.

NEW UPLOADS POLICY CHANGE

Effective immediately, the sysops will adopt the following policy for new uploads to the Atari ST and 8-Bit Forums:

All new uploads will be placed ONLY in the NEW UPLOADS LIBRARY for a period of 2-3 weeks. After this time, they will be MOVED to the appropriate long term library and deleted from LIB-1.

The old policy was to immediately place 2 copies of new files online. One in the NEW UPLOADS LIB and another in the long-term lib, giving users the option to download from either location. This old policy was wasteful of storage and confusing to some members who downloaded both copies thinking they were different versions.

We realize that this will require everyone to scan the NEW UPLOADS LIB in addition to the other LIBs when searching for a specific type of file, but this is a temporary problem that will be eliminated when future versions of the CIS software will allow members to scan all files in all LIBS from a single point (a feature that is on the "enhancement" list).

THE ATARI PORTFOLIO FORUM ON COMPUSERVE HAS BEEN DESIGNATED
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GO APORTFOLIO TO ACCESS THE ATARI PORTFOLIO FORUM

NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE

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> CPU REPORTâ ¢
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Issue #108
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by Michael Arthur

CPU INSIGHTS
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SIMULA, OBJECT ORIENTED PROGRAMMING, AND THE ATARI ST

From: dietrich@quando.quantum.de (Hans Dietrich)
Newsgroups: comp.sys.atari.st,comp.object,comp.lang.smalltalk
Subject: Re: OO on ST (long)
Message-ID: <1590@quando.quantum.de>
References: <8480@cognos.UUCP>
Reply-To: dietrich@quando.UUCP (Hans Dietrich)
Organization: Quantum GmbH, Dortmund, W-Germany

In article <8480@cognos.UUCP rossj@cognos.UUCP (Ross Judson) writes: I've been toying with a few ideas for my honours project, which I'll be doing next year. Since my school's faculty is really into OO (object oriented) stuff, I'll be doing something in that area. What OO environments are available on the ST? Do any of them work? Are any of them suitable for project-style work? Projects usually take about 8 months to do, and are supposed to be a reasonably sophisticated implementation of whatever your project is about.

My system is a 1040 with a 30MB. I'm willing to upgrade the memory, but given my faith in the world of Atari I'm not so sure I want to invest more.

[...]

What's about the first object oriented language - SIMULA - as an alternative? It's still up to date, and can run on a simple 1040 ST with one disk drive!!

I append an abstract about the system from the SIMULA-Team in Germany. The contact address is included at the end.

Here it is:

SIMULA for Atari ST

If you want to do object oriented programming you definitely should have a look at SIMULA. SIMULA is the first and still the most advanced object oriented programming language available on a wide variety of machines *including* the Atari ST (see below).

SIMULA in a Nutshell

- Conventional general-purpose algorithmic capability in the style of ALGOL 60.

- Object-oriented programming (classes) encompassing encapsulation, inheritance, information hiding, autonomous activity and strong typing supporting the concepts of modularisation, generalisation, specialisation, abstraction, polymorphism and pseudo-parallelism.

- Basic features for manipulating text strings.

- File concept supporting sequential and direct access methods for byte- and record-structured files.

- Large repertoire of utility functions.

- Features supporting 2-way linked lists. More complicated list structures such as trees and lattices are easily constructed from the basic class facilities.

- Features supporting discrete event simulation in various styles including the object-oriented process view.

  It should be emphasized that although in many quarters SIMULA is best known for its simulation features it is a truly general-purpose language in the widest sense and was the inspiration for almost all developments in the field of object-oriented programming.

What you get with each SIMULA system

- Object oriented programming. A typical SIMULA program consists of a set of interacting processes, or *objects*. Objects are incarnations of some prototype or *class*,generated (and perhaps later terminated) during the execution of the program. In this manner a program written in SIMULA can map the problem’s solution conveniently and cleanly.

- Strong typing, checked mostly at compile time, ensuring that objects are manipulated in a manner consistent with their specification.

- Objects may act independently of each other in "quasi-parallel". This enables the class objects to act as co-routines, so that the action of one object can be temporarily suspended, later to be resumed at the exact point of suspension. Co-routines facilitate a faithful representation of systems composed of both passive and active objects. This feature is an extra dimension to those commonly associated with object-oriented languages and is only recently beginning to appear in some of the newer ones.

- List processing. The class "Simset" may be applied to add list processing capabilities to the language. The programmer will then have tools for the efficient manipulation of common aggregate information structures, including queues. The facilities of Simset can be further refined for more specialized purposes.

- Simulation. Application of the built-in class "Simulation" extends SIMULA to a powerful tool for discrete event simulation in a style which preserves in the model the inherent structure of the system under study.

- Powerful text handling, dynamic arrays, flexible file handling, etc.

- Modularization. Separate compilation of classes and procedures is an

integral part of the language. The strong typing extends to separately compiled modules allowing the partitioning of large SIMULA systems into subtasks, which may be assigned to different work groups, without fear of undetected incompatibilities.

- SIMULA has a rigid standard definition and programs are highly portable between computer systems (source code compatibility).

SIMULA - Implementations

SIMULA is available for the following computer systems:

Apollo DN3000	Apple MacIntosh/MPW
Atari ST	BESM 6 (USSR)
CDC 3000, CDC 6000/Cyber	Cromemco CS-x00
DEC 10/20	DG Eclipse/Desktop, DG MV
EC 1040/1055 (GDR)	ES EVM (USSR)
Honeywell Bull DPS8	HP 900/300, HP 9300
IBM mainframes	DOS, OS/2, XENIX (UNIX)
ICL 2900, ICL PERQ	Indata IN4200
NCR Minitower, NCR Tower XP/32	Nixdorf Targon/31
Norsk Data NORD 100/500	PR1ME Minisupercomputers
SIEMENS 7500/BS2000	SIEMENS 7800/BS3000
SIEMENS MX, SIEMENS PCD	Sperry 1100
SUN-3, SUN-4, Sun SPARCstation	DEC VAX/UNIX, VAX/VMS

Since there are new implementations under way this list may already be incomplete.

Some properties of the SIMULA system for the Atari ST

1) Full SIMULA language standard.
   (Currently the only restriction is that the switch is not yet implemented. Also you might expect a better accuracy from software emulation for real arithmetic.)

2) Implementation based on the well-known Lund SIMULA System for UNIX machines and others.

3) Compact implementation. The complete system fits on one double sided disk.

4) Economic. The compiler needs less than 1 MB even when compiling modules consisting of more than one thousand source lines.

5) Fast. Compilation speed of approximately 1000 source lines per minute. The execution speed is comparable with that of other high-level languages.

6) Complete interfaces to TOS and GEM.

7) Separate compilation of different modules with consistency checks at compile time.

8) Compatibility. Runs on all TOS versions and all types of keyboards. Call interface for external procedures written in other languages

(currently supported: assembler. Under development: C support). Uses Sozobon's jas and ld, alternatively Atari's MadMac and aln (on request also GST).

9) Symbolic debugger (source-code debugger) is under development.

Ordering information

Atari ST SIMULA is distributed by:

SIMULA-Team GmbH iG
P.O.B. 50 01 63
D - 4600 Dortmund 50
West - Germany

The introductory prices are (prices in US$ and GBP at current exchange rates, for information only):

	DM	US$	GBP
ordinary	198.00	120.00	72.00
educational	148.00	90.00	54.00

(for students, teachers etc. - please accompany your order with evidence)

delivery charge in Germany, prepaid	7.00		
delivery charge in Germany, not prepaid	12.00		
delivery charge abroad, prepaid	22.00	13.00	8.00

(this charge is waived if you can do without the German documentation)

Please accompany your order with a check payable in DM to SIMULA-Team GmbH Dortmund or transfer the amount due in DM before ordering

to PostGiroAmt Dortmund (BLZ 440 100 46)
Account 8999-466
for O. Schlageter Computer

More information on SIMULA

Association of SIMULA Users (ASU)
Secreteriat
Ron Kerr
Computing Laboratory
University of Newcastle upon Tyne
Newcastle upon Tyne, NE1 7RU England

Telephone: (+44 91) 222 8187
E-Mail: r.kerr@newcastle.ac.uk

The ASU also publishes a Newsletter which may be subscribed (still) free of charge.

Contact for SIMULA in Germany:

SIMULA Group
c/o University Dortmund / IRB e-mail: simula@unido.uucp

P.O.B. 50 05 00 simula@unido.bitnet
D - 4600 Dortmund 50
West - Germany

Literature

The Standard:

[Sis87] SIMULA Standard. Stockholm, 1987. Data processing - Programming languages - SIMULA,
Swedish Standard SS 63 61 14.

Textbooks on SIMULA:

[Poo87] R. J. Pooley. "An Introduction to Programming in SIMULA."
Blackwell Scientific Publications, Oxford, 1987.
ISBN 0-632-01611-6 resp. 0-632-01422-9 (pbk.).

[Lam88] Guenther Lamprecht. "SIMULA - Einfuehrung in die Programmiersprache." Vieweg Verlag, Braunschweig, Wiesbaden, 3. neubearbeitete Auflage, 1988. ISBN 3-528-23321-4.
(In German, also available in English)

[Kir89] Bjoern Kirkerud. "Object-Oriented Programming with SIMULA."
International Computer Science Series. Addison-Wesley Publishing Co., 1989. ISBN 0-201-17574-6.

Textbooks on Simulation

[Fra77] W.R. Franta. The process view of simulation. Elsevier North-Holland, New-York, 1977.

[Bir79] Graham M. Birtwistle. DEMOS - Discrete Event Modeling on SIMULA.
MacMillan Press, London, Basingstoke, 1979. ISBN 0-333-32881-8.

[Mit82] I. Mitrani. Simulation Techniques for discrete event systems.
Cambridge University Press, 1982.

[Kre86] Wolfgang Kreutzer. System Simulation Programming Styles and Languages. Addison-Wesley Publishing Co., 1986.

I hope this helps!

best regards,

Hans Dietrich

> CPU STATUS REPORT LATE BREAKING INDUSTRY-WIDE NEWS

Issue #18

Compiled by: Lloyd E. Pulley, Sr.

- Irvine, California — ACA TO REPLACE AAA?

The American Computer Association (ACA), a non-profit group, is the computer owner's equivalent to the auto club. For an annual fee year ($60 for the first year, then $45) the ACA offers phone support, up to three visits a year by a computer technician, advice/discounts on the purchase of computers and computer equipment, and training classes on computer management and maintenance, said Ken Logan, chairman of ACA.

- San Jose, California — APPLE SETTLES LAW SUIT

In a settlement that is said to be one of the largest of its kind in the San Francisco labor department, Apple computer has paid $436,687 to 15 black men and women who claimed they were refused jobs because of their race. The 15 were all offered jobs in the settlement, but only one is reported to have accepted. Apple, which admitted no wrongdoing in the settlement, agreed to re-examine its hiring process to ensure fair evaluation of job candidates.

- Redmond, Washington — ANOTHER SALVO IN MICROSOFT-APPLE WAR

Microsoft has announced that it has learned that Apple intends to widen its copyright infringement lawsuit to include Windows 3.0. The suit, originally filed in March 1988 and also including Hewlett-Packard as a defendant, alleged that Microsoft Windows 2.03 (as well as Hewlett-Packard's New Wave interface, which is basically an enhancement of Windows) infringed Apple's copyright by too closely resembling the Macintosh user interface.

- Washington, DC — CRAY 3 TO SHIP IN JUNE

According to reports from an official of Cray Computers, a spinoff of Cray Research, the company will deliver its first computer this June to the U.S. Department of Energy.

The $30 million system, designated the Cray 3, will ship with four processors but should be upgraded to a full 16-processor system by next year. The full Cray 3 system will operate at speeds up to 16 billion floating point operations per second or 16 gigaflops. In addition to high initial costs, operating expenses for a supercomputer, the fastest computers built, are said to run well over $200,000 per month, even for smaller systems.

- Santa Clara, California NEW NATIONAL SEMI CHIP IMPROVES HARD DRIVES

The DP8491 Integrated Read Channel chip recently introduced by National Semiconductor is a single integrated analog/digital microchip that provides all the read-channel electronics needed by hard disk drives and is reported to increase data storage capacity of some hard disks by as much as 45%.

The new chip supports what is termed as the zoned data recording technique and includes a pulse/servo detector, a data synchronizer, a frequency synthesizer, and write precompensation circuitry, all on a single chip capable of 33 megabits-per-second data rates. The DP8491 is specially designed to operate from a single 5V power supply, making it highly desirable for notebook or laptop computers which run on batteries, National says.

- San Antonio, Texas MICROSOFT UP, TEXAS INSTRUMENTS DOWN

According to the latest corporate earnings report from Microsoft, they reported revenues of $486.9 million, a 57% increase from the same quarter in 1990, with a net income of $123.8 million, an increase of 65% from the same quarter in 1990. Texas Instruments reported a loss of $54 million compared to a gain of $13 million for the same quarter last year.

- Cupertino, California APPLE ATTEMPTS TO REDUCE POLLUTION

As an alternative to driving to work, Apple Computer is offering its employees some interesting options. It is hoped these options will help decrease pollution and traffic congestions in the San Francisco Bay Area.

The options including free shuttle buses from Caltrain stations to Apple sites, a fleet of company bicycles, an electronic database of ride-sharing opportunities, telecommuting, and a guaranteed ride home in case of personal emergency. To sweeten the offer, employees get a dollar credit in the company store every time they use one of the new commuting options.

- San Francisco, California HAYES WINS DOUBLE IN PATENT SUIT

Everex Systems, Ven-Tel and OmniTel have been assessed double damages by U.S. District Judge Samuel Conti who upheld Hayes Microcomputer Products patent for an escape sequence with guard time. Conti, who also awarded Hayes court costs, said that the wilful infringers must not be allowed to have infringed a valid patent for five or six years and then only have to pay a 1.75 percent royalty to the owner of a valid patent.

The patent is at the heart of the ‘Hayes AT’ command set since it

specifies how a PC will go from the online mode to the command mode. Hayes compatibility has become a de-facto standard in PC modems of all speeds.

- Torrance, California DECISION REVERSED IN ASHTON-TATE COPYRIGHT SUIT

This week, U.S. District Judge Terry J. Hatter Junior rescinded his previous ruling of December 1990 which invalidated Ashton-Tate's dBase copyrights. The original ruling was in a suit Ashton-Tate filed against Fox Software in November 1988 alleging its Foxbase and Foxpro software programs infringe on Ashton-Tate dBase copyrights.

On December 11, 1990, Judge Hatter ruled that Ashton-Tate's dBase copyrights were invalid because the company had failed to disclose in its copyright registration applications that dBase II and dBase III were derived from a public domain program (JPLDIS) developed at Jet Propulsion Labs in Pasadena, and that the disclosure was intentionally done to deceive the copyright office.

- Rockville, Maryland NEW GENIE GENERAL MANAGER

John Barber, the man instrumental in setting up GE's relationship with PC-VAN, the net through which GEnie is accessed in Japan and a 20-year veteran of GE Information Services (GEIS), has taken the job as general manager of GEnie, the online information service. Barber replaces Bill Louden, who is still with GE, but whom the company states has resigned from the general manager's role to "pursue other interests."

The current subscriber base for GEnie is said to be 260,000. Since implementing its flat-fee "Star*Services" program last year, GEnie has experienced a 40% revenue growth, Barber said, and there are plans to add 70,000 new users to the system by the end of 1991. Barber promises that 9600 bits-per-second access to the GEnie system will be available in May. The roll-out to 9600 service will be in 40 U.S. cities and in Toronto, Canada. The access will be based on the V.32 standard.

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Other telecom services may have additional charges. Canadian Tymnet users have an additional telecom charge. Office Time access (7 a.m. to 7 p.m., weekdays) may have an additional charge. And of course, other restrictions may apply. But this is still an amazing deal!

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> UG BBSs STR Spotlight — Looking BBS's over, what do they do?

TAKING A GOOD LOOK AT.....

part II

BULLETIN BOARDS

by Dana P. Jacobson

Last week, I talked a little bit about the Bulletin Board System as an important part of computing. These multi-faceted systems provide us with all kinds of information which helps us in our endeavors to utilize our machines effectively; and at the same time provide a forum for news and entertainment.

As promised, this week's column will focus on what is probably the most essential part of learning more about our machines: the user group. As is implied by its name, the user group is made up of people like yourself who share similar interests, either a specific topic within the realm of possible uses of the machine (for example, desktop publishing); or the group may consist of people who just share the common bond of using an ST or 8-bit machine. Most groups that I am aware of consist of this last category.

Forming a user group is very simple: a few people decide to band together and meet formally or informally, and discuss various topics surrounding their various interests. Or, this small group can be the initial nucleus for the group, and recruit members who share similar interests; and the group becomes more, though not necessarily, organized in nature. Most groups meet monthly at a pre-determined time and location. Most groups start off with very informal meetings which usually turn out to be bull-sessions, talking about various programs and perhaps playing a few games for entertainment.

After awhile, the group may want to expand its functions and determine some goals for its members. If the group wants to grow, "advertising" on local bulletin boards and a sign or two around a dealer's store always seems to spread the word about the group's existence. Let people know you're out there.

Okay, so let's say you're now a member of a small user group. What do the user groups do? What do its members want? Where do you meet? All important questions.

First of all, you can meet anywhere. Someone's house, a local church, school or library will usually let you meet on a regular basis. Check around. Your members will probably want to get the same thing out of the group as you do: to learn more about the machine by sharing ideas and experiences. Groups are made up of people with various levels of experience, so the meetings are usually a learning experience for everyone involved. The user group exists (at least in my opinion) to learn more about your machine(s) and its many uses.

To give you a better idea of what goes on with user groups, primarily at the meetings, let me share some of my experiences. By no means do I consider my user group a "textbook" example, but for the most part it's probably a good example as any for the general idea. I joined the South Shore Atari Group (Boston) almost four years ago. I had just recently bought my first computer, a 520 ST. I had visited a few local dealers by this time, and had a small collection of software, very small. My brother-in-law, who sold me the machine, informed me that he was not going

to spend every waking moment teaching me all there was to know about the ST. As it was, every time I had a problem or question, I was on the phone calling him, or over at his house to "see" how something was supposed to be done. In short, I was being a pest. I initially bought the machine because I didn't want to spend $600+ for a word-processor machine. I essentially wanted something so I could write. I have two typewriters, but editing requires either a lot of stock of white-out, or a lot of re-typing when it came time to make changes. The other advantages of having a computer were that I had the opportunity to do more than just word processing - I could also play games if I wanted! I was never a fan of computers. I was always somewhat intimidated by them. My only on hands experience with them to this point was a course or two in college, FORTRAN. I muddled through the courses, as they were very basic in nature. The one thing that I did learn was that the computer was only as good as the user. If your program was poorly written, it didn't run. I was no programmer. My feeling was that how was I going to use a computer now if I didn't know how to program it. The ST was the computer that solved that problem. The GEM interface, point and click, turned out to calm my fears: NO programming experience required to use it!!

So alright, back to my brother-in-law's reluctance to be my 24-hour tutor! A new dealer had recently opened. The owner had talked with a few people who had been part of a user group a few years earlier, but had disbanded. He offered to help the group get going again, and would allow his store to be used after-hours for a meeting location. I was convinced to join so I could learn more about the ST. Reluctantly, I did. I say reluctantly because I felt at that time that all computer users were nerds and these people were going to be talking technical computerese that was just going to go right over my head. I didn't want to be the only beginner in the group and look like an idiot! Well, I joined anyway, and I discovered that there wasn't a "nerd" in the bunch; or at least what I envisioned a computer nerd to be like!

My first meeting was the second for the re-formed group. Things were still somewhat disorganized, but attempts to change that were being made. I was impressed. There were about a dozen people there, and most were circled around a couple of the store's machines, playing some games. People were discussing certain games or applications; and it appeared that this would become a good learning experience for me, and others who were also fairly new in computing (I wasn't the only one!).

After a few more meetings, the members decided that they wanted to become more organized instead of being what was up-to-now simply a social gathering of ST and 8-bit users. We loosely formed the group into a structured unit, with a formal meeting outline. The original nucleus of the group decided we should have officers, albeit limited, to provide us with the essentials for some kind of formal setting. We started off with a Chairman, Treasurer, and Newsletter Editor. They also decided to set up a committee to meet separately from the regular group meetings, to plan future meeting topics. I joined that Steering Committee a few months later. I felt that it was important to get involved somehow; and to be a part of organizing meetings which might help me in the end seemed to be a good idea.

Meeting at the computer store had its benefits, and made meeting topics very simple to plan. Since the dealer always had the latest software, hardware, and magazines to view; our meetings usually consisted of demonstrations of these products. Eventually, the group grew, and we added a PD Librarian to our slate of "officers". The newsletter was coming out monthly, although at that time it was very small, consisting of

a review or two and perhaps some editorial comments and the like. One person was doing all of the work, so that was the reason for the small size. Still, it was a nice addition to the group's activities.

The group continued to grow as more people became aware of this new dealer. We had newsletters available to the customers, and various signs all over the place. In less than a year, we had about 25-30 members regularly showing up at the meetings. The newsletter grew in size, and more people were writing articles and reviews. The PD Library was growing, and we managed to even sell a few disks among the members. The store also had some of our disks and was selling them sporadically. We had seen a lot of new software and hardware. People with specific interests showed off their talents. I still fondly remember seeing one member showing off his artistic abilities using Cyber Paint and CAD-3D. We had MIDI demonstrations. I became interested in desktop publishing after seeing a demo of Timeworks' Publisher ST. We saw Mac and IBM emulations, with Magic Sac and pc-ditto. We learned about telecommunications, and I eventually bought a modem and started my own BBS. There was so much to learn, and ideas were always available.

The group went through many changes, as most will. People lose interest while others' grow. The store closed after a couple of years, so we had to meet somewhere else. We've currently about 50-60 members, and we're in our third meeting site. Without the constant influx of new software and hardware at a dealer, we've had to devise new means to provide regular and interesting topics for our membership. It's vital to provide these things, or membership will dry up and new members will stay away. So far, we have been fortunate to get some local developers to attend our meetings. To name a few, Jim Allen of Fast Technology has been our guest a number of times; the folks from Gribnif Software have visited us; Bob Brodie, from Atari, has been in town a couple of times and attended our meetings; and more. Other meeting topics have resulted with software donations from various companies. When we learn of someone locally who uses his/her ST for something unusual or interesting, we invite them to speak. Most recently we had Rick Keene, who has been interviewed for ST Informer and written an article for Current Notes, come visit us. Rick has his own company and he does a lot of graphics work on his ST. He's currently doing some graphics for a proposed new game for the ST. He's also doing work to restore some of the old DC Comics Superman archives. I won't go into detail, but I will tell you that more about Rick will appear in a near-future issue of ST Report!

The point of all this is to inform you that there are many topics of interest for you to come up with that will provide the user group with a well-rounded amount of information. The difficult part is figuring out what you want to do, and plan it. Sometimes the ideas flourish, and at other times the ideas just aren't there. The important thing to remember is that people have different interests. Find out what those interests are, and try to focus in those areas.

Your user group cannot do everything because the resources available are not unlimited. There will be times when the membership is declining; topics for meetings fail to materialize; guest speakers cancel; demo software bombs; hardware fails to work; or no one is interested in the meeting agenda. It happens. It's happened with my group and many others. Be patient, get involved, and stay interested.

As a point of reference, not everyone is going to go out and start a user group. There are resources available to see if there's a user group in your area. Pick up any copy of Current Notes and you will find lis-

tings of groups for each state. STart magazine also has a listing which can usually be found on the disks that accompany the magazine. These lists don't contain every Atari user group in the country, but they're a good beginning. Check with your local Atari dealer, as he will usually know if there's a group around town. Check with your friends. Check out the local bulletin boards and ask. Ask about a group on one of the online services; they also usually include a user group listing. If all this fails, send a letter to Bob Brodie at Atari. Bob is the Manager of User Group Services at Atari, and he has a list of every registered Atari user group in the country!

I've found that the South Shore Atari Group has become an integral part of my computer training. I've met a lot of interesting people; and many have provided me the opportunity to learn more about my ST. Without the group, I doubt that I'd still be using my machine for more than word processing and playing a few games. If you're serious about learning more, I highly recommend that you find a group near you, and join. You won't be sorry. If you still need help finding a group, send me a letter and I'll see what I can do. Send any inquiries to any of the online services listed elsewhere in this issue of ST Report.

Until next time...

****

:HOW TO GET YOUR OWN GENIE ACCOUNT:

To sign up for GEnie service: Call: (with modem) 800-638-8369.

Upon connection type HHH (RETURN after that).
Wait for the U#= prompt.

Type: XTX99587,CPUREPT then, hit RETURN.

**** SIGN UP FEE WAIVED ****

The system will now prompt you for your information.

-> NOW! GENIE STAR SERVICE IS IN EFFECT!! <-

****

> COLOR IMAGES STR InfoFile Keeping the troops informed....

COLOR IMAGES FOR THE ST/TT COMPUTERS

==========

by Chet Walters, W. D. Parks and S. Kelly Webb

The color .IMG files produced on the ST/TT are not directly device specific ST/TT word interleaved video screen images. Before encoding and saving, the "video" is separated into continuous mono plane bitmaps in the order PLANE 0 Plane 1 PLANE 2... PLANE n. Each plane of this "unleaved" image is then encoded as any other .IMG file would be, scan line by scan line, bitplane by bitplane in the order given. This form of multi-plane storage is known to GEM as non-device specific, or "standard."

In most instances, the GEM vro_trnfm, otherwise known as transform form (vdi-op 110), is useful. However, it pukes at times on images larger than the actual screen in use. It is very very slow if one tries to transform "in place" (ie has the same address in both the source and destination MFDBs). It is best to hand code the "inter" and "unleaving" process if memory affords enough buffer space. But, one can hand code the "inter" and "unleave" process directly into the encoding de-endcoding routine for limited memory situations, the only drawback being that the disk reads/writes will be slow. However, hand coding these into the read/-write routines directly are actually faster than calling VR_TRFM on a bit image in place then writing the result to disk!

In encoding this image using the accepted method for DRI version 1 bit IMG files, each bitplane is considered as a SEPARATE ENTITY. Each plane is encoded as if it were a monoplane image with the pixel width/height the same as that of the color image. The result being that there are stored in the file X number of "monoplane" images corresponding to the number of bitplanes noted in the header. When encoding the bit map data, always start anew at the beginning of each plane. Make sure there are no VRC mates between planes "joining them at the hip" as it were. (see VRC below).

---------- COLOR IMAGE HEADERS ----------

Each of the color images on the ST/TT has a specific header type with a necessary read of 11 words (22 bytes). The first 8 words conform to the known DRI header standard used for many years for monochrome IMG files. The extra three words are specific to these color IMG files and offer flexibility for the task at hand. The "STTT" format holds more promise for the TT computers because it offers storage capabilities beyond that of "XIMG" images and has some specific place holders for some of the extra features of the TT. The "STTT" format also holds the color palette RGB values in proper bits per pixel indexing order for easy transport to other platforms. These header formats, their details and usages are as follows:

---------- "STTT" COLOR IMAGES ----------

STTT HEADER (necessary read = 11 words or 22 bytes)

VERS	w 0	version # (here, ONE to denote encoding scheme)
HEADLEN	w 1	Header length in words (file start to bit data)
PLANES	w 2	number of color planes
PATRUN	w 3	pattern run definition length
MICWID	w 4	width of pixel in microns
MICHGT	w 5	height of pixel in microns
PIXWID	w 6	pixel width of image (scan line width in pixels)

```
 PIXHGT   w 7  pixel height of image (number of scan line items)

            *** additional header info for color images *****

SIGNATURE w 8  ** these two words form a LONG which contains
          w 9  ** the signature ASCII "STTT" (hex $53545454)
PALLEN    w 10  # words in palette, bank #, setgray mode (see below)
PALETTE   WORDs    ST/TT palette in XBIOS/LUT form # entries is PALLEN

         [BYTEs]   optional information can be stored here (see below)

          BYTEs   actual image bit data encoded as per DRI standards
```

*** THE PALETTE LENGTH WORD OF THE HEADER:

The PALLEN word of the "STTT" header stores three separate pieces of information for TT computers.

BIT 15	BITS 14-11	BITS 10 - 0
GRAY	BANK #	NUMBER OF WORDS IN PALETTE

FOR ESETPALETTE on the TT or SETPALETTE on the ST:

Bits 10-0 hold the number of entries (words) in the color palette strage area. These bits have maximum value of 2047. The MINIMUM number of palette entries for the image to be displayed properly MUST be stored and reflected in the value held in these bits. The beginning color MUST ALWAYS be BANK #0 COLOR #0 so there must be at least 16 words in the palette for a 4 plane image. One has the option to store additional banks for TT palettes but stored first in the file MUST be BANK #0 COLOR #0 followed by BANK #1 then BANK #2 ... BANK #15. All palettes must be stored as full banks in multiples of 16 words (full palettes) and the PALLEN word of the header MUST reflect exactly how many WORDS are stored here. For compatibility with ST computers, it is best to store at least 16 words regardless of the number of planes in the image for use with the XBIOS 6 call. For 8 plane TT low resolution images, store a full 256 word palette. For monochrome, use the old standard with no color palette. (see sample code)

FOR ESETBANK on the TT:

BITS 14-11 carry the number (0-15 when shifted) of the bank in the palette which was active when the IMG file was saved to disk. If the IMG is an 8 plane image or there is only BANK #0 stored, these bits should be clear. The palette stored in the file must begin with BANK #0 and COLOR #0 and work it’s way up in 16 word multiples in order to have the proper number of entries to select the BANK noted in these bits. (see sample code)

FOR ESETGRAY on the TT:

The high BIT 15 carries the SET GRAY flag to denote if the IMG was saved with the TT’s gray mode bit set. Set = GREY. Clear = COLOR. (see sample code)

******** THE PALETTE ENTRIES IN THE HEADER:

In STTT color IMG files, the palette is stored in similar fashion to the palette stored in Degas files. The entries are in words with 0000rrrrggggbbbb bit values in XBIOS/LUT form ready for either the ESETPALETTE ($54) on the TT or the SETPALETTE ($6) on the ST. The first

color stored is always LUT COLOR #0 and BANK #0. It is good practice to store at least a 16 word palette of BANK #0 to maintain compatibility with ST computers. For 8 plane images, all 256 entries must be stored. For images of lesser planes, any number of up to 15 BANKs can be stored in addition to BANK #0 but must be stored as full 16 word palettes progressing upwards from BANK #0. Palette entries stored in this fashion are easily transferable to other platforms.

******** ADDITIONAL STORAGE CAPACITY

The image bit data will always begin HEADLEN * 2 bytes (HEADLEN words) from file start. There are always 22 bytes (11 words) in the header itself. Therefore, should HEADLEN*2<>(PALLEN*2)+22 then there is additional data stored in the area after the palette entries and before the bit image data. This is a documented additional storage area with only one restriction: the length of the extra data stored here must always be WORDs in length (ie an even number of bytes). When reading or writing "STTT" IMG files, never ASSUME that the bit image data will immediately follow the palette entries. Always KNOW that the bit image data will ALWAYS be HEADLEN * 2 bytes (HEADLEN words) from the beginning of the file.

---------- "XIMG" COLOR IMAGES ----------

NOTE: This format has not been explored extensively so this should by no means be considered gospel but we think it’s accurate.

```
XIMG HEADER (necessary read = 11 words or 22 bytes)
 VERS     w 0  version # (here, ONE)
 HEADLEN  w 1  Header length in words (file start to bit data)
 PLANES   w 2  number of color planes
 PATRUN   w 3  pattern run definition length
 MICWID   w 4  width of pixel in microns
 MICHGT   w 5  height of pixel in microns
 PIXWID   w 6  pixel width of image (scan line width in pixels)
 PIXHGT   w 7  pixel height of image (number of scan line items)
*** additional header info for color images *****
SIGNATURE w 8  ** these two words form a LONG which contains
          w 9  ** the signature ASCII "XIMG" (hex $58494d7d)
COLORMODE w 10   color mode (0=RGB 1=CYM 2=HLS 3=PANTOME)
  RGB_LIST  WORD triplets for the color table (see below)
  BYTEs   actual image bit data encoded as per DRI standards
```

Each entry in the color table is stored in VDI word triplets with each word of a value between -1 to 1000 (in hex $FFFF to $03E8). Each of the RGB "mixes" takes a word triplet (or RED.w GREEN.w BLUE.w). These are ready for a loop with the VDI call SET COLOR REPRESENTATION (vdi-op 14) indexed by the loop counter when the counter is started at zero (see sample code). Only the minimum number of colors are stored for the number of planes in the image. Hence, a monoplane monochrome single plane image has only two color entries and it’s table is only six words in length (two triplets) while a four plane 16 color image needs 3 x 16 words or 48 words (96 bytes). The number of entries in the color table is 2^PLANES so the number of bytes required to read for the color table is obtained with the formula 2^PLANES * 6 (TT low res needs 1536 bytes).

NOTE: The actual image data will ALWAYS begin the HEADLEN * 2 number of bytes (HEADLEN words) from the start of the file. The drawback to XIMG files is that the palette is in VDI form and if one wishes to make these images transportable to other platforms the entries must be re- ordered and re-factored.

---------- BIT MAP STORAGE ----------

BIT MAP DATA of actual IMAGE

It is very important to note that color video normally requires that there be an even number of bytes for each scan line. However, COLOR IMG files may or may not have an even number of bytes per scan line item (some may be small clips of a screen). The scan lines are stored as byte(s) wide packets which conform to PIXWID + 7 DIV 8 to arrive at the raster byte width. This will not necessarily be of even byte width, however. Should the loading program need the result in word width form, the loading code must "pad" the scan line items if the packets work out to an odd byte width. Again, we repeat. Scan line items will be in packets of BYTE(s) and may sometimes be of an ODD number of bytes just like "normal" monochrome IMG files.

Bit planes are separated for storage so that each ENTIRE plane is represented as if it were a monoplane image of the pixel width specified in the header and will be the number of scan lines/pixels tall as per the pixel height/scan line item word in the header. The number of these "monoplane images" will equal the number of planes in the header. For example: If there is stored a four plane image of an ST Low resolution 320 x 200 screen, plane ZERO will be stored as a monoplane non-interleaved image 320 bits wide (40 bytes) with 200 scan line items. Plane ONE will follow in the same fashion followed by plane TWO then THREE.

You can visualize it as one long narrow monoplane image which is the pixel width of the original and the pixel height of the original times the number of planes tall. However!! ****IMPORTANT**** When encoding this "long tall monoplane" image one MUST NOT cross planes with a VRC replication count. THAT BEARS REPEATING. Each plane is SEPARATE and should NOT be joined by a VRC replication pair. The last line of PLANE ZERO can NEVER be joined with the first line of PLANE ONE in a VRC replication count. The same holds true for any number of planes stored in the image, of course.

******* IMPORTANT *******

ENCODING SCHEMES NOT ONLY STOP AT THE END OF EACH SCAN LINE AND BEGIN ANEW AT THE BEGINNING OF THE NEXT LINE, VRC SCHEMES STOP AT THE END OF EACH PLANE AND BEGIN ANEW AT THE START OF THE NEXT PLANE.

The bitmap data is stored as scan line items (scan line by scan line) and the total number of decoded scan lines for each plane will equal the pixel height/scan line item word in the header. Successive planes are stored in the same fashion if there are more than one. So, the bit data is stored scan line by scan line and plane by plane. Encoding schemes must stop when the data reaches the end of a scan line. Whatever storage method is used to store the scan lines is also stopped at the end of each bit plane. No data encoding schemes can cross a scan line boundary and no VRC encoding can cross a plane boundary (planes cannot be "joined at the hip" so to speak). This is boring repetition, we know, but it is very important and there are some real.... well, some folks need the hammering.

SCAN LINE ITEMS

Each scan line item has two components:

* VERTICAL REPLICATION COUNT (assumed one - more as noted)
* encoded bit data for display

VERTICAL REPLICATION COUNT, or VRC

It is very important to note going in here, that a VRC count of ONE is

ALWAYS assumed to be true. Each scan line item is ALWAYS represented in the image at least ONCE. If NO VRC token series precedes a scan line item, the VRC count of that item is ONE.

VRC counts are tokenized in the following manner:

Byte	Byte	Byte	Byte
0	0	255	N repeats for this scan line

Should you encounter a VRC token series, then the next scan line item is to be decoded and represented in the resulting image N times. If there is a count of FOUR, then the scan line item which follows will be represe-nted in the image FOUR times in succession. If there is no VRC token series, then the scan line item is represented ONE time.

SCAN LINE BIT ENCODING

Each scan line item can be encoded with one or more of the three methods described below. These are mix & match and each scan line item may well have all three or two or only one.

BIT STREAM (token 128)

The number of bytes of data in the BIT STREAM cannot exceed 255. Token byte is #128 or $80. The byte following the token is the run length of the bit stream which follows, or the number of subsequent bytes to copy from file to buffer as is.

Byte	Byte	N bytes											
128	N	Bit Stream											

SOLID RUN (token NEVER 128 and NEVER 0)

The SOLID RUN (all black or all white) stores repeated data in a single byte, the least significant seven bits of which indicates the number of repeats and the most significant bit indicates the "state" or value of the byte to be repeated (’0’ = 0000000 or ’1’ = 11111111). The token/byte will never equal 0 or 128, of course, and the number of repeats possible is between 1 and 127.

Byte
As Above

Example: 160 = 10100000 = 32 bytes of $FF
Example: 255 = 11111111 = 127 bytes of $FF
Example: 7 = 00000111 = 7 bytes of $00

PATTERN RUN (token 0)

This is the repeat of a pattern (whose length must be specified in WORD THREE of the header). The token for this encode is a byte of value 0. The byte following is the number of times the pattern is to repeated after which follows the pattern itself (the length in bytes of which is the WORD THREE of the header which can be 1 through 8).

Byte	Byte	Pattern-length bytes
0	N	Pattern to be repeated N times

```
SAMPLE CODE FOR READING COLOR IMAGES (this is by no means gospel)

   f_open   #0,#imgfile
   f_read   #header,#$16,handle  grab 22 byte header
   cmp.l    #'STTT',signature    which kind?
   beq      .dosttt              ok, then that then
   cmp.l    #'XIMG',signature    well?
   bne      .now_img             funky file, do the bit data anyway

.doximg   **** here we show how to do RGB color mode only
   moveq    #1,d0             the power of words (clean upper.w)
   move.w   planes,d1         to the power of planes
   asl.w    d1,d0             will yield the number of
   move.w   d0,d6             entries in the color table
   beq      .now_img          unlikely but there may be none at all
   mulu     #6,d0             how many bytes to read it is now
   f_read   #table,d0,handle  & assumes file ptr right place
   lea      table,a6          set a6 pointer to table entries
   clr.l    d7                color index zero to start
.setcolors

   VS_COLOR d7,(a6),2(a6),4(a6)  index,red,green,blue

   lea      6(a6),a6          up pointer to next triplet
   addq.w   #1,d7             next index too
   cmp.w    d6,d7             had enough?
   blt.s    .setcolors        more to do then mebbe
   bra      .now_img          show that puppy

.dosttt * work the header for STTT img files
   move.w   palmode,d6     grab palette entry word
   andi.l   #$7ff,d6       d6 = # palette words (should be 256 or less)
   beq      .now_img       no colors means skip this all
   asl.w    #1,d6          reading words, remember
   f_read   #palette,d6,handle  file ptr is at start of palette
   tst.w    is_we_tt       check TT flag
   bne.s    .we_sure_is    ok, then that then

   SETPALETTE  #palette    XBIOS $6 for ST computers
   bra       .inform       now skip the TT stuff

.we_sure_is

   ESETPALETTE #palette,d6,#0    XBIOS $54 for TT computers

   clr.l    d7             insurance
   moveq    #1,d0          ready for gray XBIOS call
   move.b   palmode,d7     grab gray and bank bits (upper byte only)
   bclr     #7,d7          clear gray bit and test flag
   bne.s    .setgray       if flagged, use gray
   clr.w    d0             else means full color XBIOS call
.setgray

   ESTGRAY  d0             XBIOS $56 for TT computers (color/gray)

   cmp.w    #4,planes      8 plane 256 color IMG (or what)?
   bgt.s    .inform        then we skip the bank call
   lsr.w    #3,d7          shift bits over for proper bank value
   lsr.w    #4,d6          palette entries div 16 = # of banks
   cmp.w    d6,d7          did we load enough banks to set it ok?
```

```
   ble.s .setbank          yup, no sweat
   clr.w    d7             else, bank zero
.setbank

   ESETBANK d7             XBIOS $52 for TT computers (choose bank)

.inform
   V_UPDWK                 inform VDI of the change in the palette

.now_img  **** never assume your file pointer is right for this
   f_seek   #0,#0,handle      beginning of file
   move.w   headlen,d7        header len in words
   ext.l    d7                clean as a whistle
   asl.w    #1,d7             words, remember
   f_seek   #0,d7,handle      start of image bit data

   <read decode and display image bit data>

*****************************************************
   BSS
is_we_tt  ds.w  1     our flag for we are a TT (or not)

palette   ds.w  256   room for 256 word palette entries

table     ds.w  256*3 room for 256 word VDI triplets

header            read 22 byte header into this area
imgvers   ds.w  1  version #
headlen   ds.w  1  word offset from file start to image data
planes    ds.w  1  # of planes in image (1,2,4,8,?)
patlen    ds.w  1  pattern run definition length for encodes
micwid    ds.w  1  device pixel micron width
michgt    ds.w  1  device pixel micron height
pixwid    ds.w  1  width of image in pixels (+7 div 8 = raster bytes)
pixhgt    ds.w  1  height of image/plane in pixels/scan lines
signature ds.l  1  ASCII 'STTT' or 'XIMG' signature
palmode   ds.w  1  # of palette entry words + gray/bank bits (STTT)
                   or color mode (XIMG)
```

> FCC CERTIFICATION STR FOCUS IS IT CLASS A OR, CLASS B?
  ==========================

IS IT REALLY THE FCC'S FAULT?
ACTUALLY..
IS IT ANYBODY'S FAULT?

by Ralph F. Mariano

Why is it that Atari seems to be the only computer company that has real trouble with equipment certification? Does the FCC have a vendetta for Atari computers and equipment? Is it really that difficult to obtain Class B Certification? These are but a few of the very typical questions asked almost every week across this great land about the Class A vs Class B situation.

Atari may appear to be the only computer to have 'difficulties' with the certification procedures but really, that's not the case at all. Nor is the FCC out to "get" Atari. No, there really isn't a monster backlog or logjam of devices awaiting inspection and certification.

The differences between Class A and Class B certification is indeed subtle and at times somewhat ambiguous. Yes my friends that's right, even though there are those who would like you to believe that the Apocalypse will commence if you use a Class A device in a residential area. Throughout the remainder of this article, I'll try to examine the various procedures, rules and regulations pertaining to this particular topic and hopefully, when done, many of you will no longer fear the big bang at the front door at midnight. It must be made perfectly clear that the FCC does not condone the use of class A devices in a residential area. The penalties and enforcement efforts on the part of the FCC is directed primarily toward the manufacturers and sellers of the equipment not the end user. The only time an end user is involved is if the equipment, class A or B, is causing interference to radio and/or television reception.

To begin with, a few questions needing answers from the "source". STReport interviewed a 'very' knowledgable FCC source and obtained the following information;

QUESTION:
Does the FCC confiscate or seize equipment used in violation of the Class a vs Class B requirements?

ANSWER:
The FCC itself does NOT confiscate equipment that is in violation of the Rules and Regulations. If confiscation is pursued due to the serious nature of the violation, (unlicensed transmitter, etc), it occurs only after a lengthy legal process and then through the US Marshall's office.

QUESTION:
Is it possible that a user may be fined $10,000 for using a class A device in a Class B environment?

ANSWER:
The FCC has monetary forfeitures not 'fines'. Those forfeitures are levied only after an "Official Notice of Violation" is issued and the matter is resolved either by dismissal or payment of the forfeiture. Fines are levied in 'criminal' procedures and forfeitures are those financial penalties levied in civil procedures. Forfeiture amounts are defined in the rules, there is an up to amount designated, but that has recently changed. Also, the FCC is not primarily interested in pursuing the end

user (consumer), we are interested in the sources and vendors.

QUESTION:
If a user, for example, lives in lower Manhattan and his apartment house is between say, two lofts both of which are commercial, is the user subject to the 'residential' or 'commercial' area in the rules? And if say the user lived on a farm and the main house was acres away from the nearest neighbor, would this user be in violation if he used a class A device in his home? What about the student who takes his computer from work, to school and then ultimately home?

ANSWER:
You can be sure the FCC will examine each situation on a case by case basis, the important factor here is if the device is or is not interfering with radio or television reception. If there is no complaint there is no problem. Of course, the FCC is not indirectly trying to promote circumvention of the rules. It must understood that if the device is class A, its up to the source (manufacturer, dealer, etc.) to make sure the end user knows the device is class A and its inherent restrictions. In the instance of a user transporting a computer from work, to school and then home; again, if the device creates no interference there is no problem. However, the FCC does not condone the use of class A devices in areas where they are not certified. The most serious results an end user may experience from using a Class A device in his home is interference complaints and problems. The end user must clear up this interference at his own expense and to the full satisfaction of those being interfered with.

Editor Note:
In most situations of spurious emissions interference, a high pass filter at the TV receiver being interfered with will clear up the problem. Also, a low pass line filter on the A/C lines of both the receiver and the emitting device may clear up unwanted signals. Listed elsewhere in this article are a number of suggestions for the elimination of interference. ABCO Computers is ready to assist any Atarian with information and suggestions pertaining to the elimination of RFI free of charge.

Now, down to the nitty gritty;

First, let's see what Certification/Verification is.....

Certification

Applies to non-licensed devices, mostly low power radio frequency devices and , in addition, to certain categories of receivers which tune anywhere in the bands 30 to 901 Mhz, and 935-940 Mhz, to personal computers and peripherals, to CB receivers, and to most kinds of consumer ISM equipment. (Industrial-Scientific-Medical)

Based on desk review and evaluation of written application and test report submitted by applicant.

Testing of samples at FCC Laboratory is not required by FCC Rules, but FCC has authority to request samples for testing either before or after issuance of grant.

Grant of authorization is issued by FCC.

Personal Computers carry a $735.00 Certification Fee, as do peripheral devices as outlined in part 15 subpart j. All other computing devices (as defined in Part 15) except those exempt under Section 15.801(c) must be verified and no fee is involved.

Verification

Applies to all computing devices except personal computers, personal computer peripherals and exempt computing devices (Section 15.801(c)); to FM broadcast and television broadcast receivers and certain other categories of receivers subject to part 15; and to non-consumer ISM devices and certain untrasonic devices subject to part 18.

Seller/importer or manufacturer tests device prior to marketing, for compliance with applicable FCC regulations, and retains test data.

No filing with FCC is required. However, test data may be requested by the FCC for subsequent review.

The FCC may sample device at its option.

No grant of authorization is issued by the FCC.

15.37 TRANSITION PROVISIONS FOR COMPLIANCE WITH THE RULES.

Equipment may be authorized, manufactured and imported under the rules in effect prior to June 23, 1989, in accordance with the following schedules:

(a) For all intentional and unintentional radiators, except for receivers: Radio frequency equipment verified by the responsible party or for which an application for a grant of equipment authorization is submitted to the Commission on or after June 23, 1994, shall comply with the regulations specified in this part. Radio frequency equipment that is manufactured or imported on or after june 23, 1994, shall comply with the regulations specified in this part.

(b) For receivers: Receivers subject to the regulations in this part that are manufactured or imported on or after June 23, 1989, shall comply with the regulations specified in this part. However, if a receiver is associated with a transmitter that could not have been authorized under the regulations in effect prior to June 23, 1989, e.g., a transmitter operating under the provisions of 15.209 or 15.249 (below 960 MHz), the transition provisions in this section do not apply. Such receivers must comply with the regulations in this part.

(c) There are no restrictions on the operation or marketing of equipment complying with the regulations in effect prior to June 23, 1989.

(d) Prior to May 25, 1991, person shall import, market or operate intentional radiators within the band 902-905 MHz under the provisions of 15.249. Until that date , the Commission will not issue a grant of equipment authorization for equipment operating under 15.249 if the equipment is designed to permit operation within the band 902-905 MHz.
[54 FR 17714, Apr. 25, 1989; 54 FR 32339, Aug 7, 1989; 55 FR 25095, June 20, 1990].

Subpart B-Unintentional Radiators

15.101 EQUIPMENT AUTHORIZATION OF UNINTENTIONAL RADIATORS.

(a) Except as otherwise exempted in 15.23, 15.103, and 15.113, unintentional radiators shall be authorized by the Commission or verified prior to the initiation of marketing, as follows:

Type of device	Equipment authorization required
TV broadcast receiver	Verification
FM broadcast receiver	Do.
CB receiver	Certification
Superregenerative receiver	Do.
Scanning receiver	Do.
All other receivers subject to part 15	Notification
TV interface device	Certification
Cable system terminal device	Notification
Stand-alone cable input selector switch	Verification
Class B personal computers & peripherals	Certification
Other Class B digital devices & peripherals	Verification
Class A digital devices & peripherals	Do.
External switching power supplies	Do.
All other devices	Do.

[See additional provisions in this section and in 15.103 of this part]

(b) Only those receivers that operate (tune) within the frequency range of 30-960 MHz and CB receivers are subject to the authorizations shown in paragraph (a) of this section. However, receivers indicated as being subject to notification that are contained within a transceiver, the transmitter portion of which is subject to type acceptance, certification or notification, shall be authorized under the verification procedure. Receivers operating above 960 MHz or below 30 MHz, except for CB receivers, are exempt from complying with the technical provisions of this part but are subject to 15.5.

(c) Personal computer mother boards (the circuit board performing the central processing) that are marketed assembled with an enclosure and a power supply must be certificated with that enclosure and power supply.

(d) Peripheral devices, as defined in 15.3(r), shall be certified or verified, as appropriate, prior to marketing. However, if a peripheral always will be marketed with a specific personal computer, it is not necessary to obtain a separate grant of certification for that peripheral, provided the specific combination of personal computer and peripheral has received a grant of certification.

(e) Subassemblies to the digital devices are not subject to the technical standards in this part unless they are marketed as part of a system in which case the resulting system must comply with the applicable regulations. Subassemblies include: Those devices that are enclosed solely within the enclosure housing the digital device and are not included in the definition of peripherals in 15.3(r), such as internal disc drives and memory expansion units; digital devices marketed to another manufacturer to be incorporated into a final product; circuit boards containing the central processing unit that are marketed without an enclosure or power supply; and, switching power supplies that are

separately marketed and are solely for use internal to a digital device.

(f) The procedures for obtaining a grant of certification or notification and for verification are contained in Subpart J of Part 2 of this chapter.

15.103 EXEMPTED DEVICES

The following devices are subject only to the general conditions of operation in 15.5 and 15.29 and are exempt from the specific technical standards and other requirements contained in this part. The operator of the exempted device shall be required to stop operating the device upon a finding by the Commission or its representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected. Although not mandatory, it is strongly recommended that the manufacturer of an exempted device endeavor to have the device meet the specific technical standards in this part.

(a) A digital device utilized exclusively in any transportation vehicle including motor vehicles and aircraft.

(b) a digital device used exclusively as an electronic control or power system utilized by a public utility or in an industrial plant. The term public utility includes equipment only to the extent that it is in a dedicated building or large room owned or leased by the utility and does not extend to equipment installed in a subscriber’s facility.

(c) A digital device used exclusively as industrial, commercial or medical test equipment.

(d) A digital device utilized exclusively in an appliance, e.g., microwave oven, dishwasher, clothes dryer, air conditioner (central or window), etc.

(e) Specialized medical digital devices (generally used at the direction of or under the supervision of a licensed health care practitioner) whether used in a patient’s home or a health care facility. Non-specialized medical devices, i.e., devices marketed through retail channels for use by the general public are not exempted. This exemption also does not apply to digital devices used for record keeping or for any purpose not directly connected with medical treatment.

(f) Digital devices that have a power consumption not exceeding 6 nW.

(g) Joystick controllers or similar devices, such as a mouse, used with digital devices but which contain only non-digital circuitry or a simple circuit to convert the signal to the format required (e.g., an integrated circuit for analog to digital conversion) are viewed as passive add-on devices, not themselves directly subject to the technical standards or the equipment authorization requirements.

(h) Digital devices in which both the highest frequency generated and the highest frequency used are less than 1.705 MHz and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Digital devices that include, or make provision for the use of battery eliminators, AC adaptors or battery chargers which permit operation while charging or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, do not fall under this exemption.

(i) Responsible parties should note that equipment containing more than one device is not exempt from the technical standards in this part unless all of the devices in the equipment meet the criteria for exemption. If only one of the included devices qualify for exemption, the remainder of the equipment must comply with any applicable regulations. If a device performs more than one function and all of those functions do not meet the criteria for exemption, the device does not qualify for inclusion under the exemptions.

15.105 INFORMATION TO THE USER

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

NOTE:

This equipment has been tested and found to comply with the limits for a class A digital device,pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

NOTE:

This equipment has been tested and found to comply with the limits for a class B digital device,pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However there is no guarantee that radio interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a different circuit than the receiver is connected to.
- Consult the dealer or an experienced Radio/TV technician for help.

(c) The provisions of paragraphs (a) and (b) of this section do not apply to digital devices exempted from the technical standards under the provisions of 15.103

(d) For systems incorporating several digital devices, the statement shown in paragraphs(a) or (b) of this section needs to be contained only in the instruction manual for the main control unit.

15.107 CONDUCTED LIMITS

(a) Except for Class A digital devices,for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back into the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 microvolts. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

(b) For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back into the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed the limits in the following table. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals. The lower limit applies at the band edges.

FREQUENCY OF EMISSION (MHZ)	*** Conducted Limit (microvolts)
0.45 to 1.705	1000
1.705 to 30.0	3000

(c) For carrier current systems used as unintentional radiators whose emissions are contained within the frequency range 450 kHz to 30 MHz, the provisions of this section shall not apply. Such systems are subject to radiated emission limits as provided in 15.109(e).

(d) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery charger which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

15.109 RADIATED EMISSION LIMITS

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of three meters shall not exceed the following values:

FREQUENCY OF EMISSION (MHZ)	*** Field Strength (microvolts/meter)
30 to 88	100
88 to 216	150
216 to 960	200
above 960	500

(b) The field strength of radiated emissions from a class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

FREQUENCY OF EMISSION (MHZ) ***	Field Strength (microvolts/meter)
30 to 88	90
88 to 216	150
216 to 960	210
above 960	300

(c) In the emission tables above, the tighter limit applies at the band edges. Sections 15.33 and 15.35 which specify the frequency range over which radiated emissions are to be measured and the detector functions and other measurements apply.

(d) For CB receivers, the field strength of radiated emissions within the frequency range of 25-30 MHz shall not exceed 40 microvolts/meter at a distance of three meters. The field strength of radiated emissions above 30 MHz from such devices shall comply with the limits in paragraph (a) of this section.

(e) Carrier current systems used as unintentional radiators or other unintentional radiators that are designed to conduct their radio frequency emissions via connecting wires or cables and that operate in the frequency range of 9 kHz to 30 Mhz, including devices that deliver the radio frequency energy to transducers such as ultrasonic devices not covered under part 18 of this chapter, shall comply with the radiated emission limits for intentional provided in 15.209 for the frequency range of 9 kHz to 30 Mhz. At frequencies above 30 Mhz, the provisions of paragraph(a) of this section apply.

(f) For a receiver which employs terminals for the connection of an external receiving antenna, the receiver shall be tested to demonstrate compliance with the provisions of this section with an antenna connectedto the antenna terminalsunless the antenna conducted power is measured as specified in 15.111(a). If a permanently attached receiving antenna is used, the receiver shall be tested to demonstrate compliance with the provisions of this section.

REQUESTS FOR INFORMATION

Any questions concerning the Commission’s Rules on approval of radio frequency equipment may be addressed to:

Technical Standards Branch, FCC
Room 7122
2025 M Street, NW
Washington, D.C. 20554
1-202-653-6288
or,
Equipment Authorization Branch, FCC
7435 Oakland Mills Road.
Columbia, MD 21046
1-301-725-1585

Computer access to the equipment authorization database for radio frequency devices is available through the Public Access Link (PAL).

Information on pending applications and granted authorizations for specifically identified equipment can be accessed by dialing the FCC Laboratory computer on the dedicated number 1-301-725-1072. Information is available 24 hours day, 7 days a week through the PAL system.

Inquiries which cannot be made by computer access, concerning status of applications and equipment will be accepted by FCC Laboratory personnel at 1-301-725-1585 from 02:00pm to 04:30pm EDT or EST, monday through friday, except holidays. Caller may request "status information".

Sources of information reprinted verbatim from:

(OET Bulletin No. 61)
47 CFR ch.1 (10-1-90 Edition)

> MODEM SURCHARGE? STR InfoFile "What's the Story Jerry?"
==========

OLD RUMORS SHOULD DIE,
BUT THEY NEVER FADE AWAY!

STReport is responding to this VERY OLD rumor once again, this is the second appearnce of this rumor. Why? Once again, the rumors are flying that the FCC is considering a "modem surcharge." This simply is NOT true. Its amazing to find the rumor being revived periodically. Perhaps its time for sysops of the Major Online Services to delete or place obvious dates on these files? Seemingly everytime a newer user "discovers" this file online, (the Jim Eason warning), off go the alarm bells all over again with renewed vigor.

[Excerpt from STReport #401 January 05, 1990]

RUMOR ABOUT ALLEDGED FCC PROPOSED RULE

"A rumor is making the BBS rounds that the FCC is considering a proposed rule to assess a surcharge on personal computer modem users accessing the nation's telephone network. A telephone call to Ms. Jerri Payton, Common Carrier Division, FCC, Telephone:(202) 632-7553, on 29 Dec 89, to find out what the proposed rule number was. Ms. Payton stated no such rule is under consideration. A similar rule, which was turned down, was proposed over two years ago. No similar rules are pending or planned. Over 257 people wrote in to the FCC (Dec-Jan 1989/90) concerning this rumored proposal. The vast majority failed to provide their return address so the FCC was unable respond directly to them. The FCC had issued a number of press releases on Friday, 12/29/89, and/or Tuesday, 01/02/89, discounting the rumor. The press releases were provided to both the national and local media."

In conclusion, STReport called the FCC office of Regulation and Enforcement and spoke to Mary Beth Hess spvsr., and Ms. Payton relative to this entire matter. The FCC, Ms. Hess & Ms. Payton have expressed full agreement with this article. And, at the same time, fully cleared up this rumor business. It simply is not true. The FCC is not, at this time, considering any proposals concerning modem surcharges.

> The Flip Side STR Feature "....A different viewpoint"

A LITTLE OF THIS, A LITTLE OF THAT

by Michael Lee

It seems that I inadvertently gave Jim Ness a new job last week. I mistakenly gave him credit for being a sysop on CIS. Sorry Jim.

That reminds me of something I've been wanting to discuss and that's giving proper credit on each post. I dislike using 'handles' when giving credit, but sometimes I have no choice. Each of the three major on-line networks handle 'handles' differently. On CIS, handles are not allowed at all, so I'm able to give you each person's full name. On Genie, handles are allowed, but they also have an option so that a person can use a 'nickname' next to their name or handle. For instance, someone might go by the handle of STUSER but they can expand that to STUSER [John Smith]. So many times I'm able to give them proper credit on their posts. But on Delphi, handles are allowed and there is not an option for 'nicknames'. So when I don't know the correct name of the person posting, or they don't 'sign' their posts, I am stuck with giving credit to MAD MODIFIER or BLACKICE.

Comments about the new MaxiFile 3.0 from CodeHead Software by Gordie Meyers (Sysop) on Delphi...

> I got my upgrade to MaxiFile yesterday, and must say to the world that I am _VERY_ impressed. Not only did Charles [Johnson] 'jazz' up the graphic presentation of the program, but he added all kinds of little goodies that make your file manipulation tasks ever-so-much easier. Then he goes and makes the tie-in between ArcShell and MaxiFile even more useful, by allowing the user to utilize MaxiFile III to select the whole group of files you want to include in an archive!

Boy! Either Charles is the laziest man in the world, always finding an easier way to get things done, or he's some kind of programming addict who doesn't know when to say 'Finished'! Either way, I applaud him, and recommend MaxiFile to everyone. Especially if you have a hard drive!

Question from Bill Devonshire on CIS...

Who sells MATRIX? What happened to the 24-bit color board [Lexicor] was (are) developing?

Answer from Lee (Lexicor Software) on CIS...

RIO Computers is importing the MATRIX.

We are still working on our own 24-bit board which will be out this summer some time. That release will depend on our software sales and demand. Now that we have shipped our first programs to the manufactures we have started on several neat utilities which will also support the new 24-bit boards as well as the ISAC and ALBERT cards from Dover Research.

Some questions and answers about hard drive utilities, Syquest drives and the GCR from the Gadgets by Small RT on Genie...

Question from Mark Mills...

....Can I change Syquest disks during a session? I haven't been able to get this to work. I have to restart to get the mac to read a second Syquest disk.

Questions From Lee Herman....

I recently installed a SyQuest drive to use in Mac mode. I find that cartridges formatted using Mirror technologies do not mount...Also, I find that it is not possible to dismount one cartridge, and remount a different one in the same session (ie. without exiting to ST mode and re-entering Mac mode). This occurs even with cartridges formatted by Spectre. It IS possible, however, to mount the second partition of one cartridge when the one mounted first only had one partition...I am unable to run any hard disk utilities from Mirror Tech, Alliance Peripherals, or Silverlining. None of them can find the device....

Reply from STACE (Sysop)....

...Yes, you can change SyQuest carts during a session. However, both cartridges must be formatted EXACTLY the same (same size and number of partitions). To change carts, first eject all partitions (icons) for the SyQuest cart. Then remove the SyQuest cart and install the new one. Once the second cartridge is up to speed, hit Fx (x stands for whatever function key is the proper one for your particular HD and SyQuest setup). You *will* get an error box along the way. Simply click thru it and hit the function key again.

Answer from Jeff. G....

...the reason the utilities from Mirror, Aliance, and Silver Lining don't work is that they poll the Mac SCSI port to determine which devices are hooked up. Since the ST doesn't have a SCSI port, they won't work.

From Norm Weinress on Delphi...

If you are at all handy, the easiest way to upgrade [from single-sided floppy drive to double-sided] is to reuse your SF354 case, innards and power supply. Just buy a Teac double sided mechanism (which goes for under $60) and use it to replace the old one. The new mechanisms are thinner and the front opening looks different, so you'll have to cut new holes in the front of the case. Usually, you also must twist the ribbon cable so the connector is upside down from the way it plugs onto the drive. The power connector at the drive is OK as is.

Question from Frank S. Kish on CIS...

Does anyone know the Atari BBS # in Sunnyvale?

Answer from Bob Retelle (Sysop) on CIS...

...the numbers for the AtariBase BBS were recently changed. Here is the new set:

(408) 745-2191 (408) 745-2193 (408) 745-2194
(408) 745-2195 (408) 745-2196

They say that the new numbers do not "bump" you to the next line if the one you're calling is busy (like the old setup used to), so you may have to try more than one to get through.

Comments about the TT from Terry Pack on CIS...

I got another chance to play with the TT and try out my favorite games and it doesn't look good.

Dungeon Master and Chaos Strikes Back both run but run a little fast.

Gauntlet runs at about 3-5 times normal speed. You should see that guy go! Nebulus crashes after loading the startup screen. Balance of Power runs faster which doesn't affect play and cuts down on the waiting at the end of each turn. DBASIC wont boot at all which does not surprise me. (I'm probably the only one who still uses it anyway.)

Question about the Quatum LPS105S hard drive from GHN (George) on the Gadgets by Small RT on Genie...

...I have just replaced my Seagate 30meg hard drive with a new Quantum LPS105S drive. All works well except parking the hard drive from Mac mode. The busy light will flash constantly (and after several minutes I reboot)....

Answer from Bob Shuster...

...most new drives are auto=parking, and I think it is generally considered *not* a good idea to park them manually. I think you would have a hard time finding a hard drive these days that was not auto-

parking.

Answer from Larry Rymal...
Your Quantum LPS105 auto parks. You don't have to mess with parking it. When you kill power, it parks itself.

From SHUYLAR on Delphi...
I just got my Summer 91 issue of the DAK catalog and on page #8 and #9 there is a laser printer that looks like it is almost an exact SLM-804. It has 1-meg of RAM, 300 dpi, 8-ppm, 7 printer emulations, and 39 bar-code languages. It also comes with 7 software packages that look pretty good. TOTAL PRICE $699.00, extra toner $49.00, extra drums $199.00. For IBM but it sure is interesting.

Question from J.J. Kiely on CIS...
...does anybody know of or can recommend a CAD program for the ST. As a student it would have to be somewhat affordable. I need it to be able to handle rudimentary design work - sketches almost of prototype homes, towers, buildings etc. I already own Cad-3d and as such I need something more rigid and less artistic.

Answer from Lee (Lexicor Software) on CIS...
CyberSculpt from ANTIC is the only other cad program that is "low" in price. This is not a more precise program but it can create very complex objects, so if you want a program that will help do the kind of work you want this one may be what you want. The next possible choice is from CSD and very expensive.

Answer from Bill Devonshire on CIS...

...A very good program, flexible, easy to use, GEM interfaced and fully True Cad drafting is Beta CAD - and it's only $99.00. It is a 2d implementation, so if you are looking for a 3D Cad program it will not do. DynaCad will though, very effectively, but it costs about $500.00. CyberSculpt is an excellent 3D sculpting program (but no dimensioning), it is more for animation projects, but you can sculpt very complex objects with it and then port that object to DynaCad for true dimensioning capabilities - very nice indeed.

Until next week.....

> STR Portfolio News & Information Keeping up to date...

THE ATARI PORTFOLIO FORUM

On CompuServe

by Walter Daniel 75066,164

BJ Gleason found a small LISP (a language used widely in artificial intelligence programming) interpreter that will run on the Portfolio. Softwave LISP version 2.6 requires 38k of storage, but only 12k if compressed with PKLITE. The interpreter is used in a book titled "The Elements of Artificial Intelligence" by Steven L. Tanimoto that is published by Computer Science Press. Softwave LISP is not included with the book; order it from Softwave LISP, PO Box 31607, Seattle, WA 98103. Cost is $38.

Text files with lists of all the files in all the forum libraries as of April 22, 1991, were uploaded this week. CATALO.ARC must be extracted, but is only about 55k in length. PF.CAT is an uncompressed version, but is about 122k.

A small (12k) utility for extracting files from .ARC archives was uploaded to library 1. The filename is PKXARC.COM. This program only extracts from archives--it does not create new ones.

DIP, the British developers of the Portfolio, have made available text files that contain the DIP Product Directory of Portfolio accessories available in the UK. All files are in Portfolio Address Book (.ADR) format. The uncompressed files are DIP-H.ADR, DIP-N.ADR, and DIP-S.ADR in library 1. The three files can be merged into one large .ADR file if desired. The same three files are in DIPCAT.ARC in library 1.

I've read many messages dealing with the configuration of the cable required to transfer files between a Portfolio and a PC compatible using the parallel interface and FT.COM. One forum member, after some experimentation, discovered that only six wires need be connected. The diagram of these connections is in FTCABL.TXT.

PORT.USE is a text file with keywords like "outdoor," waterproof," and "forestry." I haven't read this file yet, but it sounds like yet another unique use of the Portfolio.

> Maxifile Secrets! STR InfoFile — INSIDE TRACK TO MAXIFILE III

****

Calling MaxiFile III

Documentation by Charles F. Johnson.
Last revision: Tuesday, April 16, 1991

What This Is About

This document describes the "back door" built into MaxiFile III, CodeHead Software's powerful file/disk management utility. When MaxiFile III is installed as a GEM desk accessory (or loaded into CodeHead's MultiDesk), it is possible to inquire for its presence, and call it with a simple subroutine jump. When MaxiFile then returns to your calling application, it passes back the address of a structure that can be used to allow you to select multiple files in any directory, for whatever purpose your application has in mind. To do this requires very little code, and MaxiFile even gives you a pointer to an important subroutine you can use to make things still easier.

The techniques described here require that MaxiFile version 3.0 or later be installed as a desk accessory on the user's system.

One application that uses MaxiFile III in the manner described in this document is ARC Shell 2.5, from Little Green Footballs Software (not affiliated with CodeHead Software). ARC Shell calls MaxiFile III to get a list of files to archive, all with one action on the part of the user. ARC Shell even takes this concept one step further, and lets the user hold Shift to reenter MaxiFile, selecting more items from other directories. MaxiFile's "multiple item selection" abilities can be very powerful.

How to Detect MaxiFile III

To find out if you can access MaxiFile III, your code must make a TRAP #13 call, passing it a function number that is not defined by the system's BIOS handler. This function code is 'M3' in ASCII or $4D33 in hexadecimal. If MaxiFile III is present, it detects this call and returns the address of its entry point (and indirectly, a pointer to some other important data structures too...more later). If MaxiFile III is not installed, the "bogus" BIOS call returns with no harmful effects. (Honest. We checked with Atari.)

Here's the code to detect MaxiFile III, in assembly language:

```
-------------------------------------------------------------------------
       movem.l d5,-(sp)     ; Save register D5 for dumb C compilers
       moveq   #0,d5        ; Clear D5 in preparation
```

```
        move    #'M3',-(sp)  ; Is MaxiFile 3.0 somewhere in the vicinity?
        trap    #13          ; Perform the trap
        addq.l  #2,sp        ; Tidy up like a good little programmer
        move.l  d5,d0        ; Return the pointer (or zero) in D0
        movem.l (sp)+,d5     ; Restore D5 (movem does not change the CCR!)
        beq.s   nope         ; If D5 was still zero after the trap,
                             ;  then MaxiFile isn't here
-----------------------------------------------------------------------
```

As the comments describe, this code returns either a pointer to MaxiFile III's entry point or zero to indicate that MaxiFile III is not installed. MaxiFile returns its pointer in register D5 for a reason. Since D5 is not altered by the system BIOS handler you can be sure that if the value changes, it was MaxiFile that changed it. (Note: the code above, however, takes pains to preserve D5 and return the pointer in D0, in deference to C-style return conventions.)

One thing you'll probably want to do is set MaxiFile's path before calling it, similar to setting the path for a fsel_input call. The longword located four bytes before the address returned by this TRAP #13 call contains a pointer to MaxiFile's configuration buffer, which contains its source and destination paths (zero-terminated, of course). MaxiFile's entry point, then, looks something like this (in fact, it looks exactly like this):

```
-----------------------------------------------------------------------
        dc.l    max_config   ; Pointer to MaxiFile III's config area

max_entry:                   ; Entry point returned by 'M3' BIOS call
        .
        .                    ; MaxiFile's code
        .
-----------------------------------------------------------------------
```

The only areas of the MaxiFile configuration buffer that concern an external program are the source and destination paths. These are located right at the beginning of the buffer, immediately after a longword version number. It's laid out like so:

```
-----------------------------------------------------------------------
magic:  dc.l    'MF30'       ; MaxiFile's version # in ASCII
source: dcb.b   128,0        ; 128 bytes for the source path
dest:   dcb.b   128,0        ; 128 bytes for the destination path
-----------------------------------------------------------------------
```

If you do want to change MaxiFile's source and/or destination paths, it would be thoughtful and kind of you to save their current contents and restore them when you're finished.

When you set MaxiFile's source and/or destination path, you must keep in mind that paths are expected to adhere to a rigid format: the path string must start with an uppercase drive letter, followed by a colon and a backslash, and it must be terminated with "*.*" plus a null byte.

This works:

```
  C:\AUTO\DESKMGR\*.*
```

```
  A:\*.*
```

This doesn’t work:

```
  \AUTO\DESKMGR\*.*
  C:\AUTO\
  C:\AUTO\*
  *.*
  C:\AUTO\DESKMGR\*.INF
  a:\*.*
```

How to Call MaxiFile III

Once you’ve determined that MaxiFile III is installed, and gotten the address of its entry point, the next step you’ll probably want to take is to actually call the danged thing. This is just as simple as finding out if it’s around.

Here’s the assembly code which calls MaxiFile through its back door (assuming that the pointer returned from the code above has been saved in the longword variable called "maxiback"):

```
------------------------------------------------------------------------
        movem.l d1-a6,-(sp)  ; MaxiFile does NOT save any registers!

        move.l  maxiback,d0  ; Get pointer to MaxiFile entry point
        beq.s   dont         ; If MaxiFile isn’t here, forget it

        move.l  d0,a0        ; Put the pointer where it does some good
        move.l  #’MFBD’,d3   ; Magic longword
        lea     exit_text,a3 ; Pointer to text for ’EXIT’ button
        jsr     (a0)         ; Call MaxiFile ("HEY, MAXIFILE!")

dont:   movem.l (sp)+,d1-a6  ; Restore everything except D0
------------------------------------------------------------------------
```

The first thing you need to know about calling MaxiFile is that it doesn’t save any registers. If preserving the 680x0 registers is important to you, then you should be sure to save them before calling MaxiFile III’s back door entry point. The code above does this; it saves all registers except D0. When MaxiFile III returns to your calling code, register A0 holds a pointer to MaxiFile’s "return structure" -- more on this below.

You should make sure that you have plenty of stack space when you call MaxiFile; we recommend a minimum of 8K. Depending on what the user asks it to do, MaxiFile can be very "stack-hungry." (Recursive routines are like that.)

MaxiFile can be called from either user or supervisor mode; if you call it from supervisor mode, however, you must make sure that there is a valid user stack pointer (USP) as well as a valid supervisor stack pointer (SSP).

There are two parameters that _must_ be passed to MaxiFile III when you call it. Both parameters must be present or MaxiFile will crash. Those parameters are:

1) a "magic cookie" to tell MaxiFile it's being called from an external program. That value is 'MFBD' in ASCII ($4D464244 in hexadecimal), and it is passed in register D3.

2) a pointer to a text string, which MaxiFile will insert into its 'EXIT' button to let the user know from whence it was called. This text string can be a maximum of 5 bytes in length, and must be zero-terminated. The pointer is passed to MaxiFile in register A3.

MaxiFile III's Return Structure

When it comes back from being called in the manner described above, MaxiFile leaves register A0 pointing at a structure containing information which can be used to discover which items were selected by the user in the source directory when he/she exited.

You don't _have_ to do anything with this return structure information; it's provided in case you wish to use MaxiFile III as a "multiple file selection" tool. If you want to allow the user access to MaxiFile solely to take advantage of its file management features, and ignore the return structure entirely, there's nothing wrong with that.

In case you do want to use it, here's the MaxiFile return structure:

```
---------------------------------------------------------------------
max_return:
ret_magic:      ds.l    1       ; Magic version number
max_xywh:       ds.w    4       ; Redraw coordinates
src_pointer:    ds.l    1       ; Pointer to source path
dst_pointer:    ds.l    1       ; Pointer to dest path
src_array:      ds.l    1       ; Pointer to source array of pointers
dst_array:      ds.l    1       ; Pointer to dest array of pointers
src_cnt:        ds.w    1       ; Count of source names
dst_cnt:        ds.w    1       ; Count of dest names
max_type:       ds.w    1       ; Flag for dual display mode
struc_rtn:      ds.l    1       ; Pointer to struc-DOS translation rtn
---------------------------------------------------------------------
```

Here are explanations of the various elements in this structure:

ret_magic — (longword) A 4-letter ASCII value indicating the version number of MaxiFile III. In version 3.0, this longword is 'MF30'.

max_xywh — (4 words) X, Y, Width, and Height coordinates of the screen area "dirtied" by MaxiFile. These four words are also returned as two longwords in registers D0 and D1.

src_pointer — (longword) Pointer to MaxiFile's source path. This is the path MaxiFile was displaying in its source directory when the user exited.

dst_pointer — (longword) Pointer to destination path.

src_array (longword) Pointer to an array of longword pointers to MaxiFile's "item structures," for the source directory. MaxiFile's sort routines manipulate this array of pointers; therefore, reading through the pointer array consecutively will give you the items in MaxiFile's current sorted order. This array always contains valid information.

dst_array (longword) Pointer to an array of pointers to the items in MaxiFile's destination directory. NOTE: this array may or may not be valid, depending on the state of max_type (see below).

src_cnt (word) Number of items in MaxiFile's source directory. NOTE: this value could be zero.

dst_cnt (word) Number of items in the destination directory. NOTE: may or may not be valid, depending on the value of max_type (see below).

max_type (word) A flag indicating MaxiFile's "mode" at time of exit. If this flag is zero, MaxiFile was in "Source Only" mode, and dst_array and dst_cnt are not valid. If the flag is one, MaxiFile was in "Dual Display Mode" mode, and dst_array and dst_cnt are valid.

struc_rtn (longword) Pointer to a subroutine that translates item names from the "display" format used in MaxiFile's item structures, to a GEMDOS format suitable for file manipulations. The subroutine requires two parameters, passed in A0 and A1: 1) the address of the start of the item structure containing the name to translate, and 2) the address of an area where the translated GEMDOS-format string will be stored.

MaxiFile III's "Item Structure"

To find out which (if any) items were selected when the user exited MaxiFile, it's necessary to look through MaxiFile's "item structures." The entry labeled "src_array" above, contains a pointer to an array of pointers to these structures. (Note the two levels of indirection!)

Version 3.0 of MaxiFile has a limit of 400 files in any one directory, so you should make allowances for a maximum of 400 possible selected items.

The MaxiFile "item structure" is as follows:

```
------------------------------------------------------------------------
mfolder:        ds.b    2   ; If folder, the 1st byte here is ASCII 7
mname:          ds.b    8   ; Item name field
mspace:         ds.b    1   ; A space separator (for display purposes)
mextension:     ds.b    4   ; Extension field (zero-terminated)
mselect:        ds.b    1   ; Selected flag (0=not selected)
```

```
mattrib:        ds.w    1   ; File attributes
mdate:          ds.w    1   ; Date stamp
mtime:          ds.w    1   ; Time stamp
msize:          ds.l    1   ; File size
mscalar:        ds.w    0   ; Length of structure
```

Putting It All Together

Here's some sample code that demonstrates how to inquire for MaxiFile's presence, call it, and use the return structure to build an array of selected file/folder names. The first example is in assembly, and it does not take any care to preserve registers; if you wish to incorporate this code into a C program, you'll have to be a bit more meticulous about this.

Following the assembly example is an example of the same sort of code written in GFA Basic.

Assembly Code Example

```
* Example code to call MaxiFile and return multiple selected items
* By Charles F. Johnson
* April 16, 1991

* MaxiFile return structure

        .ABS

max_return:
ret_magic:      ds.l    1    ; Magic version number
max_xywh:       ds.w    4    ; Redraw coordinates
src_pointer:    ds.l    1    ; Pointer to source path
dst_pointer:    ds.l    1    ; Pointer to dest path
src_array:      ds.l    1    ; Pointer to source array of pointers
dst_array:      ds.l    1    ; Pointer to dest array of pointers
src_cnt:        ds.w    1    ; Count of source names
dst_cnt:        ds.w    1    ; Count of dest names
max_type:       ds.w    1    ; Flag for dual display mode
struc_rtn:      ds.l    1    ; Pointer to struc-DOS translation rtn
ret_scalar:     ds.w    0

* MaxiFile item structure

        .ABS

max_item:
mfolder:        ds.b    2    ; If folder, the 1st byte here is ASCII 7
mname:          ds.b    8    ; Item name field
mspace:         ds.b    1    ; A space separator (for display purposes)
mextension:     ds.b    4    ; Extension field (zero-terminated)
mselect:        ds.b    1    ; Selected flag (0=not selected)
mattrib:        ds.w    1    ; File attributes
mdate:          ds.w    1    ; Date stamp
mtime:          ds.w    1    ; Time stamp
```

```
msize:          ds.l    1    ; File size
mscalar:        ds.w    0    ; Length of structure

* Start of code

        .TEXT

        .
        .
        .                    ; Initialization stuff here
        .
        .

        moveq   #0,d5        ; Clear D5 in preparation
        move    #'M3',-(sp)  ; Is MaxiFile 3.0 around somewhere?
        trap    #13          ; Perform the trap
        addq.l  #2,sp        ; Dat ol' stack magic

        move.l  d5,maxiback  ; Save returned address (or zero)

        .
        .
        .                    ; More code here
        .
        .

        bsr     callmaxi     ; Go call MaxiFile

        .
        .
        .                    ; Rest of the program
        .
        .


* Subroutine to call MaxiFile and build array of selected item pathnames

callmaxi:
        move.l  maxiback,d0      ; Get pointer to MaxiFile entry point
        beq     .exit            ; If MaxiFile isn't here, forget it

        move.l  d0,a0            ; Move pointer to a0
        move.l  #'MFBD',d3       ; Magic longword (MaxiFile Back Door)
        lea     exit_text,a3     ; Pointer to string for 'EXIT' button
        jsr     (a0)             ; Call MaxiFile

        clr     maxcount         ; Clear count of selected items
        move.l  a0,a6            ; Save return structure in A6
        move.l  src_array(a6),a3 ; Pointer to Maxi's array of pointers
        lea     select_array,a4  ; Pointer to example array of pathnames
        move    src_cnt(a6),d5   ; Count of items in source directory
        beq     .exit            ; If directory was empty, forget it

        subq    #1,d5            ; Subtract 1 to use as dbf counter

.loop:  move.l  (a3)+,a0         ; Get pointer from MaxiFile array
        tst.b   mselect(a0)      ; Is this item selected?
        beq     .next            ; If not, go check the next structure

        addq    #1,maxcount      ; Increment count of selected items
```

```
        move.l  src_pointer(a6),a2 ; MaxiFile's source path
        move.l  a4,a1              ; Example's array of pathnames
.path1: move.b  (a2)+,(a1)+        ; Copy the path until
        bne     .path1             ; a null is reached
.path2: cmp.b   #'\',-(a1)         ; Look back for the last backslash
        bne     .path2
        addq    #1,a1              ; First character past backslash

        move.l  struc_rtn(a6),a2 ; A0->item structure, A1->example array
        jsr     (a2)             ; Call MaxiFile's translation routine

        lea     80(a4),a4        ; Bump the pointer to example's array

.next:  dbf     d5,.loop         ; Look through all the items
.exit:  rts

* Data storage and variables

        .DATA

exit_text:      dc.b    "YOW!" ; Text for MaxiFile's exit button

        .BSS

maxiback:       ds.l    1      ; Storage for MaxiFile backdoor pointer
maxcount:       ds.w    1      ; Number of selected entries returned
select_array:   ds.b    80*400 ; Array of selected items (complete
                               ; pathnames)
                               ; 80 bytes per item, 400 items maximum
                               ; (for this example)
        .END
```

GFA Basic (v3) Code Example
****

```
' Example code to call MaxiFile from GFA Basic 3
' Fills a string array with the filenames & folders selected by the user
' By John Eidsvoog
' April 16, 1991
'
DEFINT "a-z"
maxselect=20                        ! Maximum number of selections
exit$="YOW!"+CHR$(0)                ! Text for MaxiFile's exit button
DIM r(16),select_names$(maxselect)
'
' Assembly code to call trap #13 with opcode 'M3'
'    move.w     #'M3',-(sp)  ; 3F3C 4D33
'    trap       #13          ; 4E4D
'    addq.w     #2,sp        ; 544F
'    rts                     ; 4E75
'
DATA &H3F,&H3C,&H4D,&H33,&H4E,&H4D,&H54,&H4F,&H4E,&H75
'
FOR x=1 TO 10                       ! Read machine code into string
  READ a
  callmaxi$=callmaxi$+CHR$(a)
NEXT x
```

```
'
r(5)=0                              ! Register D5
RCALL V:callmaxi$,r()               ! Oh MaxiFile, are you there?
maxiback=r(5)                       ! Register D5
'
IF maxiback<>0                      ! If MaxiFile is present
  r(3)=&H4D464244                   ! "MFBD" in register D3
  r(11)=V:exit$                     ! Pointer to 'EXIT' string in A3
  RCALL maxiback,r()                ! Call MaxiFile
  src_cnt=CARD{r(8)+28}             ! Number of items in source directory
  src_array={r(8)+20}               ! Pointer to Maxi's array of pointers
  src_path$=CHAR{{r(8)+12}}         ! Source path
  src_path$=LEFT$(src_path$,RINSTR(src_path$,"\"))
  struc_rtn={r(8)+34}               ! Pointer to translation routine
  count=0                           ! Counter for selected items
  FOR x=1 TO src_cnt
    IF BYTE{{src_array}+15}=1 AND count<maxselect
      INC count
      a$=STRING$(16,0)
      r(8)={src_array}              ! Item structure in register A0
      r(9)=V:a$                     ! Work area in register A1
      RCALL struc_rtn,r()           ! Call the translation routine
      select_names$(count)=src_path$+CHAR{V:a$}
      IF BYTE{{src_array}}=7        ! Is it a folder?
        select_names$(count)=select_names$(count)+"\"
      ENDIF
    ENDIF
    ADD src_array,4                 ! Next pointer in array
  NEXT x
  CLS
  IF count=0
    PRINT "No files selected."
  ELSE
    FOR x=1 TO count                ! Print the list of selected files
      PRINT select_names$(x)
    NEXT x
  ENDIF
  VOID INP(2)
ELSE
  PRINT "MaxiFile isn't here."
ENDIF
END
```

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****

> MAC REPORTâ ¢

Issue #008

by Robert Allbritton

MacNews

*** APPLE SHIPMENTS UP 85% IN SECOND QUARTER

In spite of its flat earnings, Apple computer shipped over 450,000 computers in its second quarter and predicted that they would ship 1.8 million computers in 1991 and 2.2 million computers in 1992. This is in contrast to IBM who's sales dropped 17 percent for the same quarter.

*** APPLE WILL NOT BUNDLE SYSTEM 7 UNTIL SUMMER

System 7.0 is still on track towards its May 13 release date, but Apple will not bundle the new operating system with new Macintosh computers until early in the summer. Apparently Apple expects initial demand for System 7 to outstrip supply and thus will use the current System 6.0.7 until System 7 is widely available from other sources. While Apple is charging $99 for the new System 7, it is expected to be available from user groups and BBS systems (but not large networks such as CompuServe) without free telephone support.

*** ALDUS SALES UP $2.8 MILLION IN FIRST QUARTER

Aldus attributed most of its growth to PageMaker 4.0 for Windows and the Mac, and also noted that Freehand 2.0 for Windows should be out soon.

*** APPLE TO SELL JAPANESE PRODUCTS IN U.S.A.

No, they are not importing Japanese computers, but rather selling KanjiTalk, the Japanese version of the Macintosh operating system in the United States. This follows a successful pilot test program in Hawaii and is mainly targeted at Japanese companies who do business in the U.S. but want a computer system that can deal logically with Japanese, something the Mac does very well. Included in the new offerings are versions of Microsoft, Aldus, Quark, and Claris applications that use KanjiTalk.

*** MICROSOFT STOCK DOWNGRADED BY MERRILL LYNCH

Stating the rapid growth of the stock, and its current high price, Melinda Reach of Merrill Lynch downgraded Microsoft's rating from above average to neutral in the intermediate term and downgraded the long term rating from buy to above average. Other reasons stated were tough competition for OS/2, the FTC's decision to broaden its inquiry on Microsoft to cover potentially monopolistic business tactics and expanded lawsuits from Apple Computer.

MACREVIEW

A bit of bad news this week regarding The Chip Merchant. The Chip Merchant is a mail order outfit located in San Diego, CA that deals strictly in RAM Memory SIMMS. Now that the current ST and TT line from Atari also take these SIMMS this story is of extra interest. The Chip Merchant has long been the price barometer for memory in the Mac market: they traditionally have the lowest prices available, and they accomplish this by only dealing C.O.D. and shipping via UPS Ground with minimal packaging and no tools or instructions. The Chip Merchant has always been known as a bit short on service, but hey, their price is low. Well here is a story from David Sternlight, a respected member of the Mac community, who posted his experiences with The Chip Merchant on CompuServe...

#: 36429 S7/System Hardware
20-Apr-91 02:00:44
Sb: #Chip Merchant Horror
Fm: David Sternlight 70735,1161
To: All

I just had the worst business experience of my life. Based on their advertising in MacWeek, whom I trust, I called them from Los Angeles and ordered 8 4Mb SIMMS for my fx. I made it very clear I was coming from L.A.and asked if they would take a check. The woman on the phone said as long as it wasn't a P.O. Box address check, and I had ID, they would.

I drove for 2 hours to get to San Diego, and came in dressed neatly in a business suit and tie. They first said they didn't have my order. When I insisted I called they looked and found it and the SIMMS. I wrote a check and they refused it. I told them of my phone conversation and the man behind the counter went in back, came back and said they'd take it after they checked with my bank to assure the funds. They did so, and then asked for my drivers license (a perfectly valid California Photo ID license.) I showed it. (It had 5 years to run). They then said they

wouldn't take my check unless I permitted them to Xerox the license. I said I thought that might be illegal and that they were welcome to copy any info down from it, but couldn't Xerox it. The clerk then tossed the check back to me and brusquely refused it. I asked to speak to his supervisor. He refused. I asked again. He went back and a large black man came out. I asked him who he was and he said he was the owner. He refused my check. I told him I had driven for two hours and his salesperson said they'd take the check on the phone. He refused and threatened me physically. He started shouting and menacing me with his body and arms. I was actually frightened he was going to beat me up. He then forced me out the door and told me never to come back.

All this was witnessed at about 3pm today by a roomful of customers, including a colleague who had driven down with me and stayed in the background. My colleague is prepared to testify to what I've said and that I did nothing that would in any way warrant the threats or behavior. The whole experience cost me 4 hours of my time and almost two tanks of gas. I am considering what recourse I may have about this. I will die before I ever buy from Chip Merchant. Readers may judge for themselves what they wish to do.

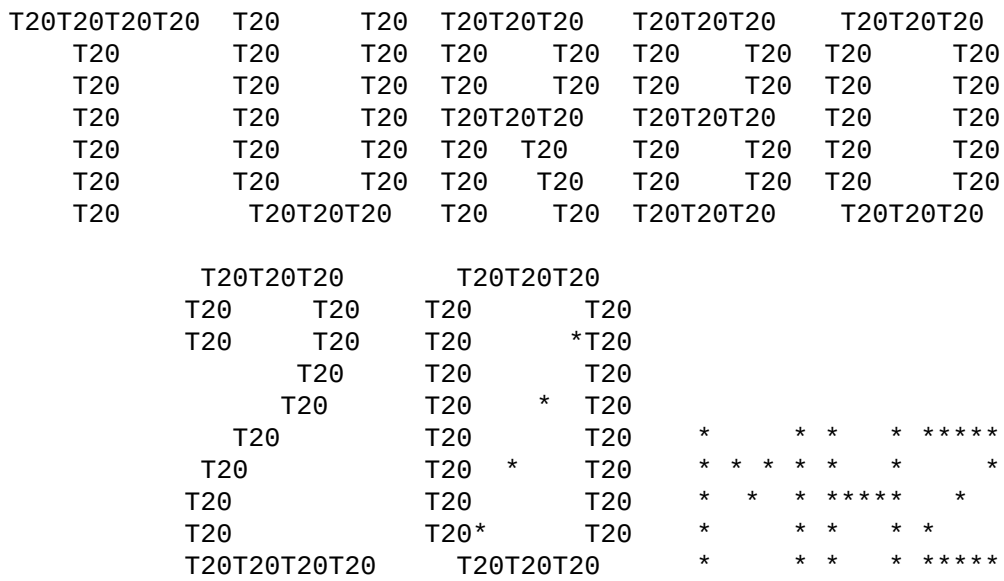
Best;
David

With this in mind, it brings up a more theoretical argument: is it better to pay a little less and get less service (Power without the price) or is it better to pay more for the same product and get better service and support?

Another personal tale to add to this is my Mac Portable. I recently bought one used for a *VERY* nice price (less than a bare bones Stacy would have cost me) but it did have one flaw: the battery was dead and would not accept a charge. Even though I was not the original owner, and the Mac Portable was out of warranty, when I took it to my Mac dealer he special ordered me a new battery (value $75) and replaced it free. "This was obviously a premature failure. Apple should replace it and I will make sure they do," the Service Rep said. Then again, how much do low prices really wind up costing us in the long run? You be the judge, and remember: vote with your wallet.

> FAST TECH'S T20 STR InfoFile YES, SPECTRUM 512 works!!!!
  ==========

FAST TECHNOLOGY is PROUD to ANNOUNCE....



The WORLD’S FASTEST 68000 ACCELERATOR!!!!!

****

TURBO20 is the successor to the most popular Atari ST accelerator ever...the TURBO16.

TURBO20 operates at the BLAZINGLY FAST speed of 20 Mhz, incorporates a more sophisticated cache design, and includes a TRUE 8Mhz operating mode for TOTAL hardware and software compatibility with all Atari ST products.

YES, SPECTRUM 512 works!!!!

****

TURBO20 uses a 16K high speed static ram instruction/data cache to help the 20Mhz processor buzz-saw through your software. Our CPUs are specially selected 16Mhz Motorola 68000 chips which are rated to operate in typical computing environments at 20Mhz. FAST TECHNOLOGY has been testing 68000 reliability at high speeds-vs-temperature for many months and we are confident that the TURBO20 will be completely reliable.

TURBO20 is the world’s first truly GENERIC 68000 accelerator, and with a single pal programming change, the TURBO20 can be used in ANY 68000 based computer. TURBO20 has been tested in the ST/STE, Amiga, Mac Plus and Classic, HP9000, AlphaMicro, and many others. So if you invest in a TURBO20 and later move to a different platform, you can take the speed of the TURBO20 with you...just send it back for a conversion.

TURBO20 uses all CMOS components to minimize power usage, and SMD surface mount construction to maximize reliablility. FAST TECHNOLOGY’s quality manufacturing has proven itself in the over 1500 TURBO16 boards installed around the world.

TURBO20 includes a hardware switch to allow selection at bootup of either 8Mhz operation or 20Mhz operation. TURBO20 has also been designed to support our future MegaSTE compatible autoswitcher, providing complete compatibility with future MegaSTE autoswitching software...such as the Extended Control Panel. On the fly switching of both cache enable and operating frequency will be supported.

TURBO20 is designed for use in all ST/STE computers, the STE computers require an optional adapter. Our STE adapter is in the test stage and will be available in a few weeks.

TURBO20 has been specially tuned for use with High Resolution video boards such as the ISAC, Moniterm, and Matrix boards. For DYNACADD users FAST TECHNOLOGY has a special FPU version of TURBO20 that incorporates the excellent JRI FPU coprocessor board for floating point performance TWICE that of the MegaSTE.

TURBO20 installation in the ST computers requires a high degree of technical skill to replace the 68000 processor with the provided high quality socket. FAST TECHNOLOGY requests that you seek the assistance of a dealer with a good technical department for the installation.

TURBO16 owners upgrading or STE users will find the TURBO20 an easy install, simply PLUG IT IN!!! All you will require is a phillips head screwdriver and a pair of needlenose pliers.

To Top it All Off!!!

TURBO20 is bundled with TURBOST, the world famous "software blitter" which brings out the best in any ST, especially one equiped with the TURBO20.

HOW MUCH DOES IT COST?

TURBO20 is considerably more complex than the TURBO16, and this added complexity COSTS. But we have held the price of the TURBO20 down to $329.00 US.

The UPGRADE DEAL!!!!

TURBO16 owners can take advantage of a limited time offer, to upgrade to the new TURBO20 accelerator.

Simply purchase a TURBO20 directly from FAST TECHNOLOGY, install it, then send us your TURBO16 board. FAST TECHNOLOGY will mark your TURBO16 and return it to you with a rebate of $89. You may then sell the TURBO16 to further reduce the cost of your upgrade.

FAST TECHNOLOGY will mark the board so that the same board doesn’t visit us too many times ;-) So act soon to take advantage of the upgrade deal, the offer expires on July 1st, 1991.

The BOTTOM LINE----HOW FAST IS IT?

The TURBO20 is 20-25% faster than 16Mhz 68000 speedups currently available. This is especially true of the MegaSTE. The following benchmarks are fairly familiar to most folks, all tests were run on a Mega4 ST, in monochrome, with TOS 1.4 and blitter...unless stated otherwise.

I wish to thank Darek M. of QuickST fame for his excellent QuickIndex benchmark program, rev 2.1 which yeilds the following:

ST	MegaST	"16Mhz"	TURBO20	TURBO20 1280x960
w/TST	w/TST	w/TST	w/TST	w/TST

CPU Memory	100		100		165		200	200
CPU Register	100		100		204		254	254
CPU Divide	100		100		204		254	254
CPU Shift	100		100		208		259	259
Bios Text	100	330	110	329	169	534	195 680	659
Bios String	100	1338	106	1338	162	2001	187 2807	2526
Bios Scroll	100	136	132	138	139	144	142 145	24
Gem Draw	100	288	133	309	209	495	240 565	537
CODEHEAD's ZOOMTEST	8.82sec		8.82sec		5.21sec		4.51sec	
Dhrystones	1268		1268		2126		2586	
TempusII Scroll of 300K file	18secs		18secs		12secs		9secs	

TURBO20 Combined with JRI's FPU
****

Atari's MANDEL.PRG FPU chip demo:

MegaSTE w/FPU: 195secs, TURBO20 w/JRI FPU: 86secs
DYNACADD DEMO "OLS" screen regen- 4secs!! 4.5secs at 1280x960!!!

For those with Amigas
****

Using the AIBB2 benchmark: Amiga 500 w/1Meg FastRam, in stingy mode

	AMIGA	ADSPEED	TURBO20
WRITE PIXEL	100	157.7	209.3
DHRHYSTONE	100	177.2	218.6
SORT	100	190.3	255.3
SEIVE	100	187.4	233.1
SAVAGE	100	170.5	232.6
MATRIX	100	202.2	277.7

***** The Punch Line *****

So that's the lowdown on the TURBO20. It's fast, inexpensive, and all around awesome. As usual FAST TECHNOLOGY brings the highest of high tech to the ST market, always first and always best. We will be making adapters and some addons that will enhance TURBO20 further, so you won't be left behind.

We are taking orders now, if you are interested either Email an order to us on GEnie, or contact:

FAST TECHNOLOGY
P.O. Box 578
Andover Ma. 01810
(508)-475-3810

We will be giving priority to TURBO16 upgrades.

- Palatine, IL MISSIONWARE READY, WILLING AND ABLE!

WELCOME TO MISSIONWARE SOFTWARE!

Missionware Software is a brand new company that will be focusing it's development efforts for the Atari ST/STE/TT line of machines. We herald from Palatine, Illinois, and plan to be around a long time, depending of course on your support for our products.

About The Company and it's Founder...

The President of Missionware Software is John Trautschold. John has been programming computers of all types for over 15 years. His first computer was the veritable Altair 8800 (which still runs by the way!) Later, he moved on to MSDOS machines, and of course, the Atari ST line. His experience ranges from assembler through C.

Through the present, John has worked in television and radio broadcasting as an engineer, both hardware and software. In between the time he spends programming the ST, he works for CBS Television in Chicago (WBBM TV) as an engineer doing maintenance on high-end video tape and graphics systems. Additionally, he's developed a number of hardware software microcontrollers for use at CBS. When John isn't programming a 68000 in the ST, he's programming and designing around the 68HC11 microcontroller.

About Our Products...

Missionware Software begins its existence with two packages.

lottODDS

The first is called "lottODDS" and is a lottery number generation program. If you enjoy playing your state or local lottery, then this program will make that much easier and more fun to boot! lottODDS (pronounced "lotto odds") will help you maintain a database of numbers chosen over the years, which can then be used either for generating numbers to play (using 7 statistical and proprietary methods developed in house by Missionware) or for your own statistical analysis.

lottODDS picks numbers using a "least" or "most" algorithm, statistical averaging, "hot" numbers, and statistical "between", "consecutive" and "pairs" match ups. But lottODDS does much more than that! We've designed a special wheeling method that distributes the numbers picked more evenly and over a greater and more flexible range than any wheeling system yet developed. You have total control over how your numbers will be distributed. But that's not all! The program also permits you to enter your own numbers (if you wish to play birthdays, special dates, or any special numbers you wish). It will also generate random numbers (our own version of quick picks) and then permit you to wheel them for best distribution.

Once the numbers to play have been chosen, by whatever method you decide to use, you can now print them out for transfer to your lottery

playing tickets, or you can use the handy on-screen dialog to scroll through the chosen number.

If you play a lot of games each week, lottODDS will also keep track of the numbers you've played. When the actual numbers have been picked by the lottery agency, all you have to do is enter those. lottODDS will then do a comparison between those numbers and the ones it (or you) picked and display the games that have matching numbers in them.

lottODDS permits you to play in lotteries that pick between 3 and 10 numbers out of a field of 99 numbers. And that covers any known lottery currently in existence. You can also use the program to play multiple lottery games...just load in the file for the game you wish to play, and you're off! Everything is handled through the easy to control GEM interface.

lottODDS is not copy protected (although you must "register" your software before it can be used) and is usable on either a color or monochrome system. It's also installable on your hard disk. The program lists for $34.95 and can be purchased directly from Missionware Software. Dealer distribution is also being setup, and for now you can also purchase directly from Pacific Software Supply.

Printer Initializer

The second program available from Missionware Software is called the "Printer Initializer". This is an ultra-handy utility program that's actually two programs in one!

But first, just what is "Printer Initializer" and what can it do for you? The programs (installation and desk accessory) give you something you've *never* had before...quick, total, and *easy* control over your printer's control functions. Now we know that most programs, such as word processors and database programs, have printer configuration menus. But for the most part, they're a pain to use and setup, and when you need to make a quick change in font style, line spacing, etc. not only do you need to remember how to do it within that program, but you probably have to dig out the printer operations manual to look up the codes. That all takes time, and time is what Printer Initializer gives back to you. It's there, waiting for you at the click of the mouse. Want to change tab spacing to 4 from within your spreadsheet? Good luck! With Printer Initializer, it's easy!

So, what are the two programs you receive and how do they work? The first is called "Printer Install" or "pinstall.prg". This is the program you use to generate your own printer drivers. You can generate as many drivers as you wish, although you'll be permitted to use only six later in the desk accessory. You can generate multiple drivers for one printer or for multiple printers. As you generate the drivers, you can easily test the functions too...just to make sure that what you've created really works! The printers can be used from either the parallel or serial port. If you have multiple printers online (one to each port or through a selector switch) the program will automatically set internal printer output redirection so that your GEM host program knows where to send it's printer output.

The other part of the program is a desk accessory called, strangely enough, "Printer Initializer", or "prt_init.acc". This is the program you'd normally use on a day-to-day. The desk accessory is usable within any GEM based program that permits the use of DA's When activated, you'll

see the same dialog screen that you saw when you initially configured your drivers, but now, instead of doing the configuration, you'll be activating the functions in your printer. that includes the output redirection between serial and parallel ports discussed earlier.

The distribution disk includes two ready-made drivers, one for the Epson FX80 series of printers, the other for those cute Kodak Diconix 150 portable printers.

The programs started out as an in-house utility for us at Missionware, but quickly became so useful, we decided to polish it up and offer it for sale. We think you'll quickly find the program indispensable too, and at only $24.95, it's truly a bargain. As do all of Missionware Software's products, these programs run in both monochrome and color. Although not copy protected, you must "register" the program before you can run it (a very simple software procedure!) and once registered, you can can use the programs on either a floppy or hard drive based system. You can order this directly from Missionware Software, or through the distribution network described earlier.

Demonstration Programs Available...

Demos are available of both of these programs. The demo itself (based on Atari's DemoPlay program) will run in medium res color only, although the programs themselves will run in either color or monochrome. In both cases, the demo programs are fully functional except for being able to save a file. You can find the lottODDS program uploaded as "lottODDS.arc" and Printer Initializer uploaded as "prt_init.arc". Demos are also available free of charge directly from Missionware Software. Just send us a blank, formatted disk with a self-addressed stamped return mailer and we'll get the demos out to you ASAP.

Our address is:

Missionware Software
354 N. Winston Drive
Palatine, IL 60067-4132

Thank you in advance for your support. We promise to support you as well on most of the major online services. We're currently working on setting up support on BIX, CompuServe and GEnie. See you there! Telephone support is coming as well... Thank you, and we hope you enjoy Missionware Software products. Missionware Software is always looking for products to sell and support...if you have a product you'd like to have us consider publishing for you, please contact us either online or via our address above. Thanks!

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CardFile also can insert an address into your word processor, address envelopes, print mailing labels, or even dial the phone. To make things even more convenient, both program and desk accessory versions are included to allow access to your data at all times.

CardFile data can easily be imported into your spreadsheet, mail merge, and database software. It works with all Atari computers and even has special hooks to interface with NeoDesk 3 - The Ultimate Desktop.

When you call CardFile, it displays its information in a convenient GEM window with all the necessary control buttons clearly visible within its window. This visual approach makes CardFile one of the easiest to use programs of its class.

Owners of previous versions of CardFile should contact Gribnif Software for complete upgrade information.

CardFile 3 is available immediately for $39.95 from Gribnif Software and includes a complete, easy to read, manual. To order, either call us at (413) 584-7887 or use the following order form:

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- London, UK TQM ANNOUNCES UNIQUE HARD DISK ACC'Y!

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TQM ANNOUNCES STREE
THE ADVANCED HARD DISK SCAN ACCESSORY

==========

There's a file you *know* is on your hard disk somewhere but you can't remember just where. Looks like it's time to dig out that unfriendly TTP file finder. If you can remember where that is, and what you're supposed to type in the launch box.

Or maybe installing a big new application has gone wrong. It seems to have created new folders and files on several partitions, but you're not sure what they're called or where they are. Looks like you'll have use the desktop to check each folder in turn. Or perhaps you could dig out that command line shell and work out a simpler way to do it. Perhaps not...

Makes you wonder why you bought a machine with a user-friendly graphical user interface.

Maybe you should be using STree.

STree is an amazing new desktop accessory for the Atari ST/STE/TT

which lets you search for files on your hard disk matching a specification and then manipulate them using a TT style desktop.

Just click on STree in the accessory menu and up pops a dialog box. You can then enter your search specification, including:-

- o File mask with full Unix(tm) style wildcarding.
- o Drive partitions to search.
- o Path to start searching from on each drive.
- o Depth of folders to search down to.
- o File attributes (read only, hidden, system & archive).
- o Date stamp range.
- o Time stamp range.
- o File size range.
- o ASCII or hex strings to search for within a file.

STree will then begin its search, building up a list of matching files. Once this is complete, a window will open containing the list. From here you can carry out all the standard file operations, just like the Desktop: copy, move, delete, print, rename, change file attributes, text file view, saving and printing the file list as well as being able to sort the list by folder, filename, type, date and size. And there's the same keyboard shortcuts you'll find on Atari's new desktop.

If you've got a hard disk then you *need* STree. And even better, it's low-priced shareware! Look out for it soon on your favourite online service.

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- Salem, MA GFA-BASIC ATARI USERS -> 50% DISCOUNT

GFA ANNOUNCES A 50% DISCOUNT ON GFA-BASIC FOR MS-DOS FOR ALL ST USERS!!

Salem, Ma. April 1991. GFA Software Technologies, Inc today announced the availability of GFA-BASIC for MS-DOS to all registered GFA-BASIC Atari users for a 50% discount from the List Price. In effect, GFA is treating GFA-BASIC for MS-DOS as an upgrade to all Atari GFA customers.

The new version of GFA-BASIC for MS-DOS means you can apply the programming know how you already have on your ST to the PC. That's right, the GFA-BASIC programs you have designed for your Atari will now work on an IBM computer. With this new GFA-BASIC, you get the familiar

intuitive syntax you know and the very best BASIC you can buy for DOS.

GFA-BASIC for MS-DOS gives you over 70 commands that that were brought over from GEM on the Atari like menu-bars, windows, pop-ups, dialog boxes, and alert boxes. Graphical operations that would take pages of ordinary BASIC or "C" code take only a single line in GFA-BASIC. Some features of The PC version include:

*Contains more than 500 Commands and Functions.
*Includes very fast Interpreter function as well as editor
*Compact program size under 250 KB--Hard disk NOT required
*Easy installation with DOS "COPY" function
*Contains many standard commands for creating standard graphic user interfaces such as menu-bars, windows, alert-boxes, and pull-down menus, etc... Additional toolboxes are NOT required
*Supports all standard graphic cards (CGA, HGC, EGA, VGA) in a resolution of up to 800x600 pixels in 16 colors without the need for external drivers
*Permits the use of EMS which allows the programs to have access to memory beyond 640 KB
*Contains many special mathematical commands and functions for linear algebra, statistics, and trigonometry to create technical and scientific applications. A special math library is NOT required.
*Makes use of 8087/287/387 math co-processors, if available
*Supports swapping of data on hard disk
*Supports strings and arrays larger than 64 KB
*Easy and fast access to all MS-DOS interrupt functions
*Large list of Input-Output commands
*Upward compatible with ALL other versions of GFA-BASIC (Including Windows 3.0 version) except for hardware and system dependent commands

The regular list price for the 8086/88/286 version is $249; $295 for the 386 version. For a limited time, GFA will allow ST users to upgrade to the IBM version for a 50% Discount from these prices!

This special offer is only available directly by phone or Fax. For more information contact:

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